

Vital Statistics of Towns in Bengal with a population of 20,000 and over during the month of October 1895.

DISTRICTS.	TOWNS.	Population under registra- tion.	BIRTHS.			DEATHS.										AVERAGE OF CORRESPONDING MONTHS OF PRE- VIOUS FIVE YEARS.		REMARKS.			
			Number re- gistered.	Ratio per 1,000 of population.	CHOLERA. Number re- gistered.	Ratio per 1,000 of population.	SMALL-POX. Number re- gistered.	Ratio per 1,000 of population.	Number re- gistered.	Ratio per 1,000 of population.	FEVER. Number re- gistered.	DYSENTERY AND DIARRHÆA. Number re- gistered.	INJURY. Ratio per 1,000 of population.	Number re- gistered.	Ratio per 1,000 of population.	TOTAL OF ALL CAUSES. Number re- gistered.	Ratio per 1,000 of population.		Number re- gistered.	Ratio per 1,000 of population.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Burdwan	1. Burdwan	34,477	49	17.04	4	1.32	...	...	75	26.04	22	7.56	...	...	32	7.56	123	42.79	104	36.72	
Midnapore	2. Midnapore	32,264	56	20.76	5	1.80	...	...	78	27.48	35	5.83	...	...	35	9.24	119	44.16	78	28.92	
Hooghly	3. Hooghly and Chinsura	33,069	95	34.74	5	1.80	...	...	103	39.64	35	12.60	...	...	36	8.64	136	55.59	133	48.24	
	4. Serampore	35,952	127	42.36	31	10.32	1	...	103	34.32	38	12.96	...	...	36	8.64	201	67.08	185	61.68	
Howrah	5. Howrah	116,093	339	34.80	113	11.32	...	...	163	17.04	73	7.44	...	...	95	9.72	451	46.32	233	23.88	
	6. Cassipore-Chitpur	31,493	44	16.80	8	3.00	...	...	97	10.20	4	1.80	...	...	8	3.00	50	19.08	86	32.76	
	7. Manikiala	21,878	38	10.56	3	1.08	...	...	74	5.04	4	1.44	...	...	5	1.80	27	9.84	40	14.52	
	8. Barinagara	81,978	53	29.04	17	5.88	...	...	53	18.12	10	3.48	...	...	14	4.80	95	33.24	91	31.80	
	9. South Suburban	60,643	103	18.00	6	9.66	...	...	82	14.64	19	3.24	...	...	25	4.20	136	23.40	131	20.76	
24-Parganas	10. Khoras and South Bar- nackpore.	33,647	50	16.80	3	9.66	...	...	28	9.36	5	1.68	...	...	3	9.66	40	13.44	78	26.16	
	11. Naldi	99,724	96	10.44	...	...	...	...	37	22.92	16	6.36	...	...	6	2.40	81	33.00	71	28.56	
	12. Barrackpore.	20,980	34	19.44	...	...	...	...	44	25.08	7	3.96	...	...	4	2.40	55	31.44	75	42.84	
Calcutta	13. Calcutta	681,560	1,036	18.24	133	9.28	...	...	947	16.56	271	4.68	...	...	636	10.92	2,002	35.16	1,732	30.84	Return not re- ceived up to date.
Nadia	14. Krishnagar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	15. Santipur	35,876	74	24.96	...	...	...	...	90	30.24	...	...	...	...	...	...	...	...	...	...
Murshidabad	16. Murshidabad	23,515	61	31.08	...	...	...	...	43	21.36	...	...	...	...	...	...	...	...	...	...
	17. Baranpore	21,407	69	35.00	...	...	...	...	46	25.68	...	...	...	...	...	...	...	...	...	...
	18. Rampur Boalia	23,957	47	24.24	...	...	...	...	51	26.28	...	...	...	...	...	...	...	...	...	...
	19. Sirajganj	82,831	194	29.32	16	2.28	...	...	148	20.64	...	...	...	...	...	...	...	...	...	...
	20. Dacca	24,069	22	10.20	...	...	...	...	22	10.20	...	...	...	...	...	...	...	...	...	...
	21. Chittagong	156,192	585	42.48	24	1.68	...	...	280	20.28	...	...	...	...	...	...	...	...	...	...
	22. Panna City	47,723	187	39.36	1	9.36	...	...	88	22.08	...	...	...	...	...	...	...	...	...	...
	23. Dinapore	44,419	150	40.44	31	8.98	...	...	194	28.52	...	...	...	...	...	...	...	...	...	...
	24. Gaya	80,383	277	41.28	2	9.24	...	...	34	8.64	...	...	...	...	...	...	...	...	...	...
	25. Asansol	46,905	116	28.08	...	...	...	...	38	9.04	...	...	...	...	...	...	...	...	...	...
	26. Bahabad	22,713	83	43.60	...	...	...	...	47	9.72	...	...	...	...	...	...	...	...	...	...
	27. Sasaram	57,353	89	18.60	...	...	...	...	50	26.28	...	...	...	...	...	...	...	...	...	...
	28. Chhannarayana	22,780	77	40.56	...	...	...	...	76	18.48	...	...	...	...	...	...	...	...	...	...
	29. Khetia	49,193	179	43.56	2	4.8	...	...	98	21.48	...	...	...	...	...	...	...	...	...	...
	30. Muzaffarpur	21,487	78	43.56	...	...	...	...	98	21.48	...	...	...	...	...	...	...	...	...	...
	31. Darbhanga	73,501	273	44.52	...	...	...	...	132	21.48	...	...	...	...	...	...	...	...	...	...
	32. Monghyr	69,116	214	45.72	...	...	...	...	91	19.08	...	...	...	...	...	...	...	...	...	...
	33. Bhagalpur	57,077	214	45.72	...	...	...	...	117	20.28	...	...	...	...	...	...	...	...	...	...
	34. Bhagalpur	69,116	214	45.72	...	...	...	...	40	10.08	...	...	...	...	...	...	...	...	...	...
	35. Cuttack	47,186	134	31.44	...	...	...	...	40	10.08	...	...	...	...	...	...	...	...	...	...
	36. Balasore	20,775	48	27.72	...	...	...	...	43	24.24	...	...	...	...	...	...	...	...	...	...
	37. Puri	28,794	40	16.56	...	...	...	...	35	14.52	...	...	...	...	...	...	...	...	...	...
	38. Ranchi	20,306	57	33.60	...	...	...	...	32	18.84	...	...	...	...	...	...	...	...	...	...
	Total of all towns with a population of 20,000 and over.	2,273,534	5,307	27.96	647	3.36	11	0.4	3,543	18.60	810	4.20	91	4.8	1,662	8.76	6,764	35.64	6,218	32.76	
	Average of the corre- sponding month of pre- vious five years.	.....	4,804	25.52	655	3.36	18	0.8	3,005	15.84	795	4.08	87	3.6	1,653	8.64	6,218	32.76			
	Difference + or -	.....	+ 503	+ 2.64	- 8	Equal	- 7	- 0.4	+ 538	+ 2.76	+ 15	+ 1.12	+ 4	+ 1.2	+ 4	+ 1.2	+ 346	+ 2.88			

OFFICE OF SANITARY COMMISSIONER FOR BENGAL,
The 7th December 1895.

H. J. DYSON, Surgeon-Captain, F.R.C.S.,
Sanitary Commissioner for Bengal.

IRRIGATION DEPARTMENT, BENGAL.

Abstract statement showing Tollage on Canals in Bengal classed as Major Works for the month of October 1895, as compared with that of the corresponding month of the previous year.

CANALS.	TOLLAGE, 1895-96.			TOLLAGE, 1894-95.		
	During the month.			During the month.		
1	2	3	4	5		
<i>Orissa Circle.</i>	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		
Taldanda Canal System	676 8 6	10,149 3 9	451 5 5	9,017 8 2		
Kendrapara ditto	8,261 7 2	50,433 10 2	6,238 10 7	31,756 2 5		
High Level Canal, Range I	1,341 14 0	6,598 11 6	939 1 9	4,375 15 6		
Ditto, " II	318 15 3	1,467 9 7	207 14 0	1,057 7 5		
Ditto, " III	209 7 9	921 0 9	161 9 6	674 13 9		
Jajpur Canal	27 9 0	217 5 3	41 11 6	233 3 9		
Total Orissa Circle ...	10,835 13 8	69,787 9 0	8,090 4 9	47,115 3 0		
<i>South-Western Circle.</i>						
Midnapore Canal	11,196 15 3	73,114 13 6	10,563 3 0	70,563 12 3		
Hijili Tidal Canal	5,170 0 6	48,277 7 0	3,859 13 9	41,073 10 0		
Total South-Western Circle ...	16,366 15 9	1,21,392 4 6	14,423 0 9	1,11,637 6 3		
<i>Sone Circle.</i>						
Patna Canal System	1,236 0 0	13,012 6 4	1,183 13 3	11,611 10 6		
Arrah ditto	1,081 12 6	10,849 9 3	1,166 14 6	12,691 0 9		
Buxar ditto	758 6 6	6,726 0 6	565 8 0	4,754 15 3		
Total Sone Circle ...	3,076 3 0	30,588 0 1	2,916 3 9	29,057 10 6		
GRAND TOTAL ...	30,279 0 5	2,21,767 13 7	25,429 9 3	1,87,810 3 9		

Government Transport Service.

CANAL.	TOLLAGE, 1895-96.						TOLLAGE, 1894-95.					
	During the month.			To end of the month.			During the month.			To end of the month.		
	Passengers.	Goods.	Total cepts.	Passengers.	Goods.	Total cepts.	Passengers.	Goods.	Total cepts.	Passengers.	Goods.	Total cepts.
1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Orissa Circle.</i>	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A. P.
High Level ...	2,813	...	2,523 11 3	13,564	2,807	12,256 1 0	2,293	1,176	2,151 10 9	8,728	9,218	8,670 10 2
Total Orissa Circle ...	2,813	...	2,523 11 3	13,564	2,807	12,256 1 0	2,293	1,176	2,151 10 9	8,728	9,218	8,670 10 2

Assessed Tollage Receipts.

CANALS.	EARNINGS, 1895-96.			EARNINGS, 1894-95.		
	During the month.			During the month.		
1	2	3	4	5		
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		
Orissa Canals	13,359 8 11	82,043 10 0	10,241 15 6	55,785 13 2		
Midnapore Canal	11,196 15 3	73,114 13 6	10,563 3 0	70,563 12 3		
Hijili Tidal Canal	5,170 0 6	48,277 7 0	3,859 13 9	41,073 10 0		
Sone Canals	3,076 3 0	30,588 0 1	2,916 3 9	29,057 10 6		
Total	32,802 11 8	2,34,023 14 7	27,581 4 0	1,96,480 13 11		

CALCUTTA,

The 9th December 1895.

O. C. LEES,

Under-Secy. to the Govt. of Bengal.

IRRIGATION DEPARTMENT, BENGAL.

Abstract statement showing Tollage on Canals in Bengal classed as Minor Works and Navigation for the month of October 1895, as compared with that of the corresponding month of the previous year.

CANALS.	TOLLAGE, 1895-96.		TOLLAGE, 1894-95.	
	During the month.	To end of the month.	During the month.	To end of the month.
1	2	3	4	5
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Calcutta and Eastern Canals ...	32,760 14 9	1,56,627 4 9	25,829 11 0	1,34,596 0 3
Tolly's Nala ...	7,008 0 0	49,212 15 9	6,178 0 9	42,888 3 0
Total ...	39,768 14 9	2,05,840 4 6	32,007 11 9	1,77,484 3 3
Orissa Coast Canal ...	6,464 6 3	47,546 10 3	5,237 7 0	33,817 3 3
Nadia Rivers ..	11,902 6 6	92,858 11 0	14,344 15 0	*95,597 13 0
GRAND TOTAL ...	58,135 11 6	3,46,245 9 9	51,590 1 9	3,06,899 3 6

* This includes Rs. 517-12-0, less shown in Jangipur statement for August 1894, and also Rs. 752-6-6 adjusted in September's accounts.

CALCUTTA,
The 9th December 1895.

O. C. LEES,
Under-Secy. to the Govt. of Bengal.

CIRCULAR AND EASTERN CANALS.

Approximate return of traffic for the week ending Saturday, the 7th December 1895, as compared with the corresponding week of the previous year.

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 7TH DECEMBER 1895.			WEEK ENDING SATURDAY, THE 8TH DECEMBER 1894.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy ...	411	46,100	696	673	55,212	826
Jute ...	478	2,01,850	3,531	294	1,15,225	2,106
Firewood ...	121	73,375	1,104	85	55,525	847
Other articles ...	1,023	2,16,200	3,380	710	1,94,475	2,837
Total ...	2,033	5,37,525	8,711	1,762	4,20,437	6,646

EAST INDIAN RAILWAY.

Statement of Goods Traffic in Staples carried during the four weeks ending 26th October 1895, as compared with the same period of 1894.

STAPLES.	1894.		1895.		INCREASE.		DECREASE.	
	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.
	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.
Coal & Coke carried for the public and foreign railways	41,18,406	6,12,274	50,21,543	7,61,331	8,03,077	1,49,057	...	...
Cotton, raw	21,846	21,236	75,007	35,375	53,161	14,339	...	...
Cotton, manufactured—								
1.—Twist & Yarn, European	6,298	6,899	5,002	4,456	...	...	1,296	2,443
2.—Ditto Indian	26,848	16,857	29,602	18,507	2,754	1,740	...	...
3.—Piece-goods—European	1,54,034	1,99,304	1,49,090	1,66,909	...	...	4,944	32,335
4.—Ditto Indian	35,705	24,179	41,442	34,343	5,737	10,164	...	...
Drugs and chemicals—								
1.—Intoxicating other than opium	408	155	3,572	1,411	3,164	1,256	...	...
2.—Non-intoxicating	10,122	8,946	6,358	6,117	...	...	3,764	2,829
Dyes and tans—								
1.—Indigo	3,923	6,385	17,819	47,333	13,896	40,878	...	...
2.—Myrabolams	5,586	1,336	3,929	1,183	...	...	1,587	143
3.—Cutch	1,431	678	2,488	1,181	1,057	503	...	...
4.—Turmeric	11,885	12,674	6,034	4,141	...	...	5,251	8,533
5.—Aniline dyes	298	179	78	77	...	...	130	102
6.—Others	359	217	1,199	1,192	840	975	...	...
Grain & Pulse—								
1.—Wheat	4,75,774	1,80,769	3,88,431	1,15,383	...	...	87,343	65,386
2.—Rice in the husk	1,08,412	11,294	23,932	3,450	...	...	84,480	7,754
3.—Rice not in the husk	4,39,296	68,089	3,41,073	63,557	...	...	98,133	12,532
4.—Jawar and bajra	13,257	21,061	9,866	2,184	...	...	43,391	18,877
5.—Gram & pulse	5,22,931	2,12,707	3,86,381	1,06,266	...	...	1,36,550	1,06,541
6.—Others	1,65,503	43,342	2,70,046	68,804	1,04,543	25,462	...	...
Hides and skins—								
1.—Hides of cattle	27,879	13,350	40,204	27,034	12,325	13,675	...	...
2.—Skins of sheep, &c.	13,011	4,689	13,441	6,548	439	1,889	...	...
Horns	801	577	1,311	828	510	251	...	...
Jute—								
1.—Raw	78,441	17,422	2,04,500	42,352	1,26,059	24,930	...	...
2.—Gunnybags and cloth	69,694	45,255	64,604	35,320	...	...	5,090	9,935
Lac—								
1.—Stick	23,713	8,852	24,539	8,733	826	...	...	119
2.—Shell	16,377	13,631	22,167	16,357	5,790	3,326	...	...
Leather, Manufactured	6,631	8,573	5,911	7,082	...	...	720	1,491
Liquors—								
1.—Beer	20,603	7,522	20,504	7,935	...	413	189	...
2.—Spirits	2,098	2,098	2,845	2,990	747	...	...	8
3.—Wines	2,228	4,120	3,015	5,537	787	1,417	...	...
Metals—								
1.—Copper, unwrought	2,656	3,339	1,176	691	...	...	1,480	2,648
2.—Brass, unwrought	2,957	1,702	3,198	1,403	241	...	...	239
3.—Copper, wrought	875	780	959	859	84	70	...	...
4.—Brass, wrought	15,190	7,405	13,751	8,217	...	812	1,439	...
5.—Iron	1,07,581	50,032	1,55,228	57,622	47,647	7,599	...	...
6.—Others	8,889	6,159	8,642	5,963	263	...	...	196
7.—Zinc & spelter	4,327	3,439	1,961	1,195	...	...	2,366	2,244
Oils—								
1.—Kerosine	99,158	39,711	1,29,969	47,547	30,811	7,536	...	...
2.—Castor	4,150	1,362	5,761	1,445	1,611	43	...	...
3.—Coconut	2,362	1,079	3,328	1,290	966	181	...	...
4.—Others	10,160	5,327	13,180	8,610	3,020	3,183	...	...
Oil-seeds—								
1.—Linseed	2,10,028	61,022	1,40,074	30,009	...	...	69,954	22,013
2.—Rape and mustard	1,01,545	39,808	55,472	21,859	...	...	46,073	17,919
3.—Til or jingili	5,154	1,173	3,761	908	...	...	1,393	265
4.—Poppy	6,358	1,304	3,284	859	...	...	2,074	445
5.—Earthnuts	67	53	26	9	...	...	41	44
6.—Castor	45,024	7,133	42,144	11,075	...	3,942	2,380	...
7.—Others	30,208	9,047	3,017	552	...	...	27,191	8,405
Opium	345	518	752	626	407	108	...	...
Paper and pasteboard	11,239	6,707	17,707	8,933	6,468	2,226	...	...
Provisions—								
1.—Ghee	34,640	31,502	26,751	24,345	...	...	7,889	7,157
2.—Dried fruits and nuts	15,697	9,396	15,817	8,654	129	...	...	742
3.—Others	45,897	16,272	51,227	21,387	5,339	5,115	...	...
4.—Potatoes	87,564	58,252	1,24,860	51,229	37,296	...	...	7,053
Railway plant & rolling stock carried for the public & foreign railways—								
1.—Locomotive engines & tenders & parts thereof	803	1,563	...	...	...	...	803	1,563
2.—Carriages & trucks & parts thereof	115	31	17,756	1,406	4,055	1,406	...	...
3.—Steel rails & fish plates ... ..	...	...	...	6,405	17,641	6,374	...	...
4.—Sleepers & keys of steel & cast iron	9,184	527	7,751	1,851	...	1,324	1,433	...
5.—Other sorts	5,56,901	1,07,999	4,86,193	1,11,215	...	3,216	60,708	...
Salt ... ..	...	...	...	...	...	...	...	...
Saltpetre, &c.—								
1.—Saltpetre	40,944	16,378	48,260	19,059	...	2,681	1,684	...
2.—Other saline substances	20,462	6,356	27,703	7,972	7,241	1,616	...	...
Silk, raw—								
1.—Foreign ... ..	...	...	...	...	...	...	...	...
2.—Indian	1,698	928	1,335	877	...	...	363	51
Silk piece-goods—								
1.—Foreign	3	14	21	47	18	33	...	...
2.—Indian	369	469	451	612	82	143	...	...

STAPLES.	1894.		1895.		INCREASE.		DECREASE.	
	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.
	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.
<i>Spices—</i>								
1.—Betelnuts ...	19,244	19,062	14,244	10,692	...	...	5,000	8,370
2.—Pepper ...	2,324	2,189	2,792	2,809	568	620	...	...
3.—Ginger ...	2,668	1,257	3,021	1,039	353	...	...	218
4.—Chillies ...	8,261	3,177	7,480	2,625	...	...	781	552
5.—Cardamoms ...	769	1,220	691	889	...	...	78	331
6.—Others ...	1,056	583	792	418	...	...	264	165
Stone and lime ...	2,94,832	45,151	3,29,753	55,604	34,921	10,453	...	...
<i>Sugar—</i>								
1.—Refined ...	12,856	6,184	21,240	10,601	8,384	4,417	...	...
2.—Unrefined ...	1,49,986	27,031	1,40,554	29,534	...	2,503	9,432	...
<i>Tea—</i>								
1.—Foreign ...	3	1	...	...	...	...	3	1
2.—Indian ...	5,225	3,431	2,413	3,129	...	...	2,812	302
Timber ...	46,752	6,839	64,306	13,406	19,614	6,057	...	...
Tobacco ...	41,101	16,359	31,890	13,364	...	...	9,211	2,995
Wool, Raw ...	739	805	1,234	903	595	98	...	...
<i>Wool manufactured—</i>								
1.—Piece-goods, European ...	752	1,524	1,039	1,791	287	267	...	...
2.—" Indian ...	4,709	6,064	5,632	6,729	943	665	...	...
3.—Shawls ...	...	...	...	...	...	...	...	...
<i>All other articles of merchandise—</i>								
1.—Firewood ...	17,425	1,334	12,583	699	...	...	4,842	635
2.—Indigo seed ...	9,080	2,688	18,751	5,249	9,071	2,561	...	...
3.—Mowah flower ...	29,972	2,605	31,899	5,653	10,927	2,988	...	...
4.—Oil-cake ...	51,663	8,130	48,607	8,812	...	682	3,056	...
5.—Paints & colours ...	10,549	3,725	12,421	3,840	1,872	115	...	...
6.—Seeds other than oilseeds ...	29,015	9,318	32,587	13,106	3,572	3,788	...	...
7.—Wooden articles ...	17,347	7,027	14,601	5,544	...	...	2,746	1,483
8.—Others ...	2,70,929	1,30,538	2,48,498	1,47,451	...	16,913	22,451	...
Total ...	90,32,375	23,78,508	96,61,381	24,14,274	6,29,006	35,766	...	...
Military stores ...	18,167	22,903	19,530	21,909	363	...	...	994
Coal for Railway ...	7,04,363	52,758	8,88,924	72,369	1,84,555	19,611	...	...
Railway materials ...	15,54,634	46,357	16,83,173	48,573	48,539	2,216	...	...
Live-stock ..	...	8,556	...	13,109	...	4,553	...	...
Total ...	1,12,89,545	25,09,082	1,21,52,008	25,70,234	8,62,463	61,152	...	...

T. SIMPSON, Assistant Auditor.

TRAFFIC AUDIT OFFICE, GOODS DIVISION, JAMALPUR, the 7th December 1895.

EASTERN BENGAL STATE RAILWAY.

Abstract of principal commodities carried over the Eastern Bengal State Railway during the month of September 1895, as compared with the same month of the previous year.

STAPLES.	1895.		1894.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1895.	1894.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Coal and Coke carried for the Public and Foreign Railways.	2,499	4,620	2,083	23,300	7,319	30,383	...	23,064
Cotton, raw	130	103	15	66	233	81	152	...
Cotton, manufactured—								
Twist and yarn, European	1,431	...	353	...	1,431	353	1,078	...
Ditto, Indian	248	143	263	178	391	441	...	50
Piece-goods, European	3,038	7	4,065	8	3,045	4,673	...	1,628
Ditto, Indian	41	14	47	...	55	47	8	...
Drugs and Chemicals—								
Intoxicating, other than opium	6	1	2	...	7	2	5	...
Non-intoxicating—								
Cinchona bark	...	...	...	...	...	...	...	...
Others	15	...	12	1	15	13	2	...
Dyes and Tans—								
Indigo	4	...	...	...	4	...	4	...
Myrabolams	...	...	...	...	...	...	...	...
Cutch	28	...	37	...	28	37	...	9
Turmeric	9	89	1	146	98	147	...	49
Aniline dyes	...	...	...	...	...	...	...	...
Others	7	...	5	...	7	5	2	...
Grain and pulse—								
Wheat	18	10	17	...	28	17	11	...
Rice in the husk	510	424	1,011	901	834	1,912	...	978
Rice not in the husk	2,482	1,746	2,355	1,274	4,228	3,629	599	...
Jawar and bajra	...	...	...	...	...	...	...	...
Gram and pulse	1,500	919	1,830	421	2,419	2,251	168	...
Others	76	11	12	...	87	12	75	...
Hides and skins—								
Hides of cattle—								
Dressed or tanned	...	...	...	...	...	...	...	...
Raw	...	...	...	...	...	...	...	...
Skins of sheep, &c.—	13	389	9	352	402	361	41	...
Dressed or tanned	...	...	...	...	...	...	...	...
Raw	...	...	...	...	...	...	...	...
Horns	...	3	...	1	3	1	2	...
Jute—								
Raw	526	73,371	173	75,494	73,897	75,667	...	1,770
Gunnybags and cloth	169	1,083	111	209	1,252	320	932	...
Lac—								
Stick	...	12	...	1	12	1	11	...
Shell	...	...	...	...	...	...	...	...
Leather, manufactured	42	...	41	...	42	41	1	...
Liquors—								
Beer	30	...	23	...	30	23	7	...
Spirits	...	...	...	...	...	...	...	...
Wines	91	...	67	...	91	67	24	...
Metals—								
Copper, unwrought	...	...	...	...	...	...	...	...
Brass, do.	11	...	5	...	11	5	6	...
Copper, wrought	...	...	...	...	...	...	...	...
Brass, do.	133	92	158	71	225	229	...	4
Iron	965	50	957	32	1,015	989	26	...
Others	53	3	61	19	56	80	...	24
Oils—								
Kerosine	5,235	14	7,937	8	5,249	7,940	...	2,691
Castor	16	...	4	...	16	4	12	...
Cocoanut	67	...	92	...	67	92	...	25
Others	596	...	534	...	596	534	62	...
Oilseeds—								
Linseed	...	54	2	143	54	145	...	91
Rape and mustard	493	274	245	580	767	825	...	58
Til or jinjili	1	32	1	53	33	54	...	21
Poppy	33	...	...	...	33	...	33	...
Earthnuts	...	...	...	...	...	...	...	...
Castor	...	...	...	...	...	...	...	...
Others	29	...	27	...	29	27	2	...
Opium	...	...	...	...	...	...	...	...
Paper and pasteboard	141	...	111	47	141	158	...	17
Provisions—								
Ghee	55	6	101	1	61	102	...	41
Dried fruits and nuts	40	...	36	...	40	36	4	...
Others	771	233	805	322	1,004	1,127	...	123
Railway plant and rolling-stock carried for the Public and Foreign Railways—								
Locomotives, engines and tenders and parts thereof	...	...	...	...	...	...	...	...
Carriages and trucks and parts thereof	...	...	...	...	...	...	...	...
Materials—								
Steel rails and fish-plates, sleepers and keys of steel and cast-iron.	...	...	...	...	...	...	...	...
Other sorts	...	...	67	...	...	67	...	67
Salt	5,149	140	2,928	90	5,289	3,018	2,271	...
Saltpetre, &c.—								
Saltpetre	2	...	...	...	2	...	2	...
Other saline substances	...	...	...	...	...	...	...	...
Silk, raw—								
Foreign	...	...	...	...	...	...	...	...
Indian	...	25	...	...	25	...	25	...

STAPLES.	1895.		1894.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1895.	1894.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Silk piece-goods—								
Foreign	.....	.....	.....	.....	.....	.....	.....	.....
Indian	.....	.....	.....	.....	.....	.....	.....	.....
Spices—								
Betel-nuts	134	817	440	257	951	687	254	.....
Pepper	37	.....	38	.....	37	38	.....	1
Ginger	4	59	.....	5	63	5	58	.....
Chillies	61	15	82	24	76	106	.....	30
Cardamoms	.....	35	.....	20	35	20	15	.....
Others	75	30	79	26	105	105	.....	9
Stone and lime	230	50	206	83	280	289	.....	.....
Sugar—								
Refined or crystallized, including sugar-candy.	356	1	348	.....	357	348	9	.....
Unrefined, viz., molasses and jaggery or gur, and other saccharine produce.	1,295	377	1,178	158	1,582	1,336	246	.....
Tea—								
Foreign	8	4,864	1	8,177	4,872	5,178	.....	306
Indian	365	221	132	64	586	226	360	.....
Timber	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco—								
Unmanufactured	103	1,411	153	1,508	1,514	1,661	.....	147
Manufactured—								
Clears	.....	34	.....	12	144	16	128	.....
Other sorts	110	7	4	.....	7	.....	7	.....
Wool, raw	.....	.....	.....	.....	.....	.....	.....	.....
Wool, manufactured—								
Piece-goods, European	.....	.....	.....	.....	1	.....	1	.....
Ditto, Indian	.....	.....	.....	.....	.....	.....	.....	.....
Shawls	5,026	1,326	5,168	1,168	6,332	6,336	16	.....
All other articles of merchandise	.....	.....	.....	.....	.....	.....	.....	.....
Total	34,618	95,115	34,995	117,272	127,733	152,267	6,669	31,203

CALCUTTA, the 29th November 1895.

HARRY STUART,
Examiner of Accounts.

BENGAL AND NORTH-WESTERN RAILWAY.

(INCLUDES THE TIRHUT STATE RAILWAY.)

Approximate Return of Traffic for the week ending 30th November 1895 on 756 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including steam-boat.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs.	Mds.	Rs.	Rs.	Rs.			
Total traffic for the week on 756 miles open	98,240	40,870	3,77,060	55,160	12,680	(a) 1,08,710	14,236	20,354	34,590
For per mile of railway	129.95	54.06	498.76	72.97	16.77	143.80	.....	.....	.....
For previous 20½ weeks of half-year (b)	2,179,658	8,68,426	57,92,301	7,79,885	2,06,783	18,55,094	328,145	328,933	652,078
Total for 21½ weeks	2,277,898	9,09,296	61,69,361	8,35,045	2,19,463	19,63,804	342,381	3,44,287	686,668
COMPARISON.									
Total for corresponding week of previous year on 756 miles open	97,959	40,555	3,48,286	48,901	8,574	98,030	15,286	17,000	32,286
Per mile of corresponding week of previous year	129.58	53.65	460.70	64.68	11.34	129.67	.....	.....	.....
Total to corresponding date of previous year	2,259,851	8,78,645	66,81,545	8,45,428	2,11,237	19,35,310	348,074	328,542	676,616

(a) Increase is due to better traffic on the Tirhut Section.

(b) Includes audited figures up to week ending 12th October 1895.

DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

						Rs.	A.	P.
Approximate earnings for the week ending 30th November 1895 ... ..	...	...	...	...	...	13,844	0	0
Corresponding period of 1894 ... ..	...	...	...	...	...	12,333	0	0
Increase ... ..	...	...	...	...	...	1,511	0	0
Receipts per mile for the week ending 30th November 1895 ... ..	...	...	...	...	...	271	7	2
Corresponding period of 1894 ... ..	...	...	...	...	...	241	13	2
Increase ... ..	...	...	...	...	...	29	10	0
Receipts from 1st July to 30th November 1895 ... ..	...	...	...	...	...	2,88,007	0	0
Corresponding period of 1894 ... ..	...	...	...	...	...	2,70,640	0	0
Increase ... ..	...	...	...	...	...	17,367	0	0



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, DECEMBER, 18, 1895.

OFFICIAL PAPERS.

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THE CANAL REVENUE REPORTS FOR 1894-95.

No. 13301.A.

GOVERNMENT OF BENGAL—IRRIGATION DEPARTMENT.

Accounts.

Dated Calcutta, the 3rd December 1895.

RESOLUTION.

READ—

The Canal Revenue Reports for 1894-95 and the Chief Engineer's note on the same.

The capital outlay on canals in Bengal, of which Capital and Revenue Accounts are kept, had reached a total of Rs. 7,52,85,304 at the close of the year under review. Of this sum, Rs. 1,07,66,220 have been provided from Provincial Funds, Rs. 6,16,30,182* from Loan Funds, and Rs. 8,66,000 contributed by the Imperial Government from Famine Relief and Insurance Funds.

2. The total length of the canals in Bengal is 916 miles, of which 495½ miles are for both irrigation and navigation, 242¾ miles for irrigation only, and 178 miles for navigation only. The total length of the distributaries is 2,603¾ miles, and the area irrigable from them 1,570,219 acres.

3. The receipts for the year from both major and minor works were Rs. 1,95,569 less than in the preceding year, and the net revenue fell from Rs. 2,65,949 in 1893-94 to Rs. 1,38,135 in 1894-95.

YEAR.	Balance at beginning of year.	Balance at the end of the year.	Remissions, including cancelled demand statement.	Irrecoverable items.
1	2	3	4	5
	Rs.	Rs.	Rs.	Rs.
1885-86 ...	8,84,289	5,33,177	1,41,162	41,229
1886-87 ...	5,33,177	3,69,789	57,375	22,612
1887-88 ...	3,69,789	5,59,883	32,356	19,796
1888-89 ...	5,59,883	5,79,983	42,666	14,074
1889-90 ...	5,79,983	5,09,188	80,282	20,592
1890-91 ...	5,09,188	4,72,113	48,674	16,476
1891-92 ...	4,72,113	4,04,120	38,421	12,126
1892-93 ...	4,04,120	2,26,174	61,576	11,168
1893-94 ...	2,26,174	1,72,235	29,054	4,818
1894-95 ...	1,72,235	77,498	14,367	4,815
Average of nine years ending 1893-94 ...	5,04,302	4,25,185	59,061	18,099

These figures show great and steady improvement, the arrears having been brought down from $8\frac{3}{4}$ to $1\frac{3}{4}$ lacs in the ten years; while the opening balance of 1894-95 was reduced from Rs. 1,72,235 to Rs. 77,498 by the close of the year.

7. The remissions amounted to only Rs. 14,367, or less than half those made in 1893-94. The working of each canal is shown in the following table:—

Canal.	DEMAND.			COLLECTIONS (INCLUDING REMISSIONS).			Percentage of current collection on current demand.	Percentage of total collection on total demand.
	Arrear.	Current.	Total.	Arrear.	Current.	Total.		
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
Orissa ...	63,350	1,68,449	2,31,799	48,584	1,51,075	1,99,659	89.68	86.13
Midnapore ...	7,027	1,35,016	1,42,043	6,332	1,31,132	1,37,464	97.14	96.79
Sone ...	1,01,858	6,86,905	7,88,763	92,418	6,55,536	7,47,954	95.43	94.82

8. The collections made under navigation (excluding miscellaneous navigation receipts and those of the transport services) are shown below for ten years:—

YEAR.	Orissa Canals.	Midnapore Canal.	Hijili Tidal Canal.	Sone Canals.	Total.	Miles open.	Tollage per mile.
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Miles.	Rs.
1885-86 ...	64,093	1,37,578	52,143	41,712	2,95,526	490	603.1
1886-87 ...	58,664	1,09,693	51,904	49,665	2,69,926	490	551.8
1887-88 ...	66,628	1,26,574	40,406	50,984	2,84,592	490	580.7
1888-89 ...	69,830	1,46,760	53,910	52,162	3,22,662	496½	649.9
1889-90 ...	78,039	1,45,356	40,338	51,189	3,14,922	496½	634.3
1889-90 ...	1,06,951	1,10,830	27,145	56,593	3,01,529	496½	607.3
1890-91 ...	1,20,761	1,32,572	36,348	57,339	3,47,020	524½	662.2
1891-92 ...	1,00,503	1,14,141	52,180	49,996	3,16,820	524½	604.3
1892-93 ...	1,19,115	1,14,994	58,209	50,548	3,42,866	524½	654.0
1893-94 ...	96,220	1,35,492	57,089	49,349	3,38,150	524½	645.0
1894-95 ...							
Average of nine years ending 1893-94.	87,177	1,26,409	45,843	51,132	2,10,651	.....	.....

The revenue under navigation, though less than that of the preceding year, which was enhanced by the large pilgrim traffic attracted by the special festival at Puri, was above the average.

9. The miscellaneous revenue was Rs. 83,685, as compared with Rs. 78,006 in 1893-94, the average for the nine years preceding 1894-95 being Rs. 65,400.

10. The net revenue of the year was considerably less than that of 1893-94, for reasons which will be given in the following comments on the year's working of each canal system.

11. The capital outlay on the Orissa Canals has amounted to Rs. 17,19,078 from 1890-91 to the end of the year under review, against a sanctioned estimate of Rs. 19,58,356. Accordingly on the 31st March 1895, on which date the construction estimate of the Orissa Project was closed, there was a balance of Rs. 2,39,278 available for expenditure on works which had been sanctioned, but were incomplete at the close of the year. The most important of these are the new distributaries, of which $326\frac{3}{4}$ miles have been opened since 1890-91, making an aggregate length of $1,091\frac{1}{2}$ miles now in use. Although no additional channels are contemplated, much still remains to be done to many of those recently opened. There are also various details on works classed under the heads 'Main Canals' and 'Drainage and Protective Works,' which still remain to be completed.

12. The receipts on the Revenue Account were Rs. 3,32,345, against an average of Rs. 3,05,062 of the preceding nine years. Compared with 1893-94, however, the receipts show a decrease of Rs. 43,020. The falling off was chiefly in navigation receipts, which in 1893-94 were somewhat abnormally swelled by the large pilgrim traffic to the special festival at Puri. The decrease in water-rates amounted to Rs. 15,992, and was due partly to the comparatively small arrear balance which remained to be collected at the beginning of the year, and partly to the fact that the irrigated area of 1893-94 was much less than that of the preceding year. The earnings of 1894-95 were, however, greater than in the preceding year, as the area irrigated in that year was 122,561 acres, against 103,526 acres in 1893-94. The rainfall of the year, though not so abundant as in 1893-94, was still very seasonable, and the increase in the irrigated area is decidedly satisfactory, and will lead to a larger collection of water-rates next year.

13. Owing to the wide divergence between the results of the crop experiments made in 1893-94 in the Sone and Orissa Circles respectively, extra care was bestowed on them, during the year, in Orissa, where an officer with experience of the Sone methods was deputed to conduct them. They were also in many cases made jointly by Civil and Public Works officers. The following table gives an abstract of the results:—

			Quality of crop.	OUTTURN PER ACRE.	
				Paddy maunds.	Straw maunds.
1			2	3	4
Orissa	...	...	Good ...	32.96	57.85
			Average ...	25.07	44.00
Sone	...	...	Good ...	31.92	75.38
			Average ...	24.12	57.30

The results differ so much from those obtained in previous years that the Lieutenant-Governor does not consider that they can be treated as conclusive, and desires that they should be repeated in the current year, and that the greatest care should be taken to secure accuracy. The conditions of the year were exceptionally favourable to Orissa, and the crops were extraordinarily good both in yield and quality, so that the outturn in 1894-95 obtained by these

experiments can hardly be considered as representing the normal yield. The rice crop in Orissa is probably much inferior in most years to that in the Sone, and the close correspondence between the results in the two tracts is presumably not in accordance with the ordinary state of things. The Lieutenant-Governor further observes that in every case the outturns obtained from the experiments made in the Brahmini-Byturni Division are very considerably less than those of the experiments made in the Mahanadi and Acquapada-Jajpur Divisions. This seems to point to a want of uniformity in the methods adopted in conducting the experiments. Paddy weighed on the same day that it is cut will certainly be heavier than if weighed after an interval of several days. The Lieutenant-Governor therefore desires that a revised set of rules be framed for the guidance of officers conducting experiments in each circle in future. If methods of exact precision are adopted in every irrigation division in the province, results will be obtained which will be strictly comparable, and therefore as useful as they will be interesting.

14. The number of certificate cases instituted during the year was 5,683 compared with 6,667 in 1893-94. This is a decided improvement, but the number is still larger than it should be, and the Lieutenant-Governor hopes that in future years it may be possible to avoid to a further extent, the necessity of having recourse to this method of recovering water-rates. He, however, notes with satisfaction that the number of cases pending at the close of the year was only 127, against 476 at its commencement.

15. The improvement in the collection of water-rates is very marked. The outstanding balance was reduced from Rs. 63,350 at the beginning to Rs. 32,140 at the close of the year. The number of objections to the assessments and the amount remitted was also less than in the preceding year.

16. The working expenses of the Orissa Canals were well kept down and do not grow. They amounted to Rs. 4,83,320 during the year, as compared with Rs. 5,35,477 in 1893-94 and Rs. 5,05,507 in 1892-93.

17. The net receipts of the Midnapore Canal fell from Rs. 3,04,769 in 1893-94 to Rs. 2,94,423 in the year under review, but the collections of water-rates in the former year were much increased by the large recovery of arrears. The water-rate receipts of 1895-96 will be still lower as the earnings of 1894-95 fell to Rs. 1,04,875, against Rs. 1,30,111 in 1893-94, and the area irrigated was 70,116 acres, against 85,763 acres in the previous year. The decrease is accounted for by the even distribution of the rainfall, which was nearly everywhere sufficient for the crops, though it fell short by nearly 10 inches of the rainfall of 1893-94. The leased area of 1893-94 was also swelled by the large area of 6,213 acres of rabi irrigation, which was quite exceptional. Usually there is little or no rabi irrigation from the Midnapore Canal. Navigation receipts on the other hand rose from Rs. 1,14,994 to Rs. 1,35,492 owing to a larger export of rice.

18. The statistics furnished by the Deputy Collector of the collection work done during the year are highly satisfactory. At the close of the year the arrears uncollected amounted to only Rs. 4,549, whereas at the beginning of the year they were Rs. 7,027, and at the beginning of 1893-94 the amount was Rs. 48,567. The amount remitted or written off was also less than in any of the five preceding years. The Lieutenant-Governor notices also the very creditable decrease in the number of certificate cases taken out. Only 579 cases were instituted during the year, as compared with 1,799 in 1893-94.

19. The working expenses of the canal amounted to Rs. 2,24,564, and were Rs. 16,374 in excess of those of the previous year. The increase was caused by some rather heavy repairs which were required at the head works. In other respects the expenditure was normal.

20. The capital expenditure in remodelling the Hijili Tidal Canal was Rs. 1,06,322, chiefly incurred on the large sluice on the Haldi River at Terapakia. The navigation receipts were Rs. 58,525, as compared with Rs. 59,196 of the previous year, and there was an appreciable reduction in the working expenses from Rs. 56,501 in 1893-94 to Rs. 47,426 in 1894-95, so that the net revenue rose from Rs. 2,695 to Rs. 11,099. The tonnage carried was larger, but the number of passengers less.

The Superintending Engineer remarks:—

"Notwithstanding the reduction of tolls for through traffic and a closure of the canal for three weeks during the busiest season, the receipts of the year fell little short of those for last year, which was an exceptional one.

21. The net revenue of the Sone Canals was Rs. 1,28,095, against Rs. 1,84,699 in 1893-94, and an average of Rs. 1,69,891 for the last nine years. The total receipts were Rs. 8,34,834 against Rs. 9,25,675 in 1893-94. The receipts for water-rates fell off from Rs. 8,42,309 to Rs. 7,43,243, while for navigation the amounts collected in the two years were nearly equal. The miscellaneous receipts were Rs. 35,620, against Rs. 29,578 in the previous year. The working expenses were Rs. 7,06,739, as compared with Rs. 7,40,976 in 1893-94, Rs. 7,51,247 in 1892-93, and Rs. 6,97,840 in 1891-92. The decrease falls mainly under the head "Maintenance and repairs," the expenditure on which in 1894-95 was only Rs. 2,20,227, against an average of Rs. 2,74,221 for the last five years, showing a reduction of Rs. 53,994. The cost of dredging has been much reduced. The Lieutenant-Governor regards these results with much satisfaction, and considers that they reflect credit on the Superintending Engineer and the officers serving under him.

22. The area irrigated was 317,134 acres, against 366,776 acres in 1893-94, and an average of 345,624 acres. The falling off was in both the kharif and rabi seasons, but especially in the latter, and was due to the abnormally heavy rainfall of the year. The Superintending Engineer remarks:—

"The copious rainfall in October, together with the heavy rainfall of the rabi season itself, which was more than double the average, so far moistened the soil, that irrigation in most cases was entirely unnecessary for the rabi crop."

There was a large falling off in the area irrigated under long-term leases from 291,746 acres in 1893-94 to 263,990 acres in 1894-95. This was due to the fact that a large number of leases lapsed on the 31st March 1894, and, on account of the copious rainfall of the two past years, were not renewed.

23. It is anticipated that the rules introduced in December 1894 to restrict the areas irrigated in villages near the canals, which have hitherto monopolized an undue share of canal water, will eventually prove very beneficial. The new rules prescribe that leases are not to be granted for more than 50 per cent. of the area of a village, unless the village has been under long lease and seeks its immediate removal when it expires, when it will be decided in each case whether it would be right to refuse to renew the lease for more than 50 per cent. of the area of the village. When these rules have had time to take effect, villages which have hitherto been left out in the cold will enjoy the benefits of canal water, and the areas adjacent to the canals should become more sanitary.

24. The Lieutenant-Governor notes with pleasure the very good work done in collecting water-rates. The arrears outstanding on the 1st April 1894 amounted to Rs. 1,01,858. Of this balance, Rs. 92,218 were collected during the year, giving a percentage of 90.7 per cent. The current demand for 1894-95 was Rs. 6,86,905, of which Rs. 6,55,536, or 95.4 per cent., were collected. The unadjusted balance at the end of the year was Rs. 40,809. The arrears have never been so low, the percentage of collection never so high.

25. The amount remitted fell to Rs. 4,091, which is less than in any previous year, and the number of objections preferred against the assessment of water-rates has fallen greatly as compared with previous years, and is now only 2,557, of which number only 75 were undisposed of at the end of the year. There is hardly any better test of good administration than this. The number of certificate cases also fell from 2,372 in 1893-94 to 2,119 in 1894-95, and all of these were disposed of except 70.

26. The financial results of the canals classed as minor works and navigation are shown in the statement below. The Eden Canal has been included, as, though neither Capital nor Revenue Accounts are kept, revenue is derived from it. The Saran Canals were closed throughout the year, and they have accordingly been excluded:—

	CAPITAL EXPENDITURE.		Receipts.	Expenditure.	Net income.	Average net income of nine years ending 1893-94.
	Of year.	To end of year.				
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Calcutta and Eastern Canals ...	1,076	53,58,522	4,43,003	2,89,267	1,53,736	2,41,331
Orissa Coast Canal ...	47,576	44,37,463	65,940	87,071	-21,131	-15,233
Nadia rivers ...	Nil	Nil	1,41,698	1,40,879	819	79,473
Eden Canal ...	Nil	Nil	30,200	52,738	-22,538	-16,071*
Total ...	48,652	97,95,985	6,80,841	5,69,955	1,10,886	2,89,501

* Average of six years.

27. The receipts from the Calcutta and Eastern Canals, which are purely navigation works, were Rs. 4,43,003, against Rs. 4,20,541 in the previous year. The working expenses were Rs. 2,89,267, as compared with Rs. 2,87,129 in 1893-94. The net revenue therefore increased from Rs. 1,33,412 to Rs. 1,53,736. This improvement is satisfactory as far as it goes, but the receipts are still below the average of the last nine years, which is Rs. 5,07,189, and, it may be added, are still lower than they ought to be. It has been represented that the tolls on flats towed by steamers, and the tolls levied on steamers using the Sundarbans route are inadequate. The expenditure incurred during the last eleven years in maintaining this route was Rs. 70,114, whereas the tolls realised during that period amounted to only Rs. 55,285. This question is still under consideration. A very substantial increase in the number of boats using the canal is reported, and there is every indication of the traffic still further increasing, notwithstanding the competition of the Eastern Bengal State Railway with the canal. The Bhangore khal is a section of the canal which the tide enters at both ends, depositing a great mass of silt in the middle. The shallowness of the water, and the consequent long closures necessary to clear the khal, have been a great obstruction to navigation. It has been decided to construct locks at both ends of the section, at a cost of about eleven lakhs of rupees, and the works will be commenced during the current year. If they are eventually successful, they may prove the forerunners of other and similar measures on the various links of the route, which are at present, though in a lesser degree, in much the same condition as the Bhangore khal.

28. On the Orissa Coast Canal the receipts were less by Rs. 30,627 than those of 1893-94, which were exceptionally large on account of the abnormal pilgrim traffic, but they were not much less than the average of ordinary years. The expenditure was Rs. 87,071, as compared with Rs. 98,133 in 1893-94, and the net result was a loss of Rs. 21,131. With the object of inducing boats using the upper reaches of the coast canal to continue their journey to Calcutta by the Hijili Tidal Canal, a change was made in the tolls during the year, and through tickets were issued at reduced rates from various stations on the coast canal to Gewankhali, where the Hijili Canal enters the Hooghly. The tendency had been for boats when they emerged from the coast canal at Kalinagar to go down the Russulpore River and up the Hooghly, thus avoiding the payment of tolls on the Hijili Canal. It will not probably be ever possible to entirely stop this in fine weather, but the safety of the canal route compared with the river, will induce boats to use it in bad weather, if they can get tickets at cheap rates.

29. The receipts from the Nadia Rivers amounted to Rs. 1,41,698, against Rs. 1,71,251 of the previous year, showing a decrease of Rs. 29,553. The expenditure decreased from Rs. 1,46,657 to Rs. 1,40,879. The receipts are about Rs. 46,000 below and the expenditure about Rs. 32,000 above the average of the last 9 years, and as a result the net revenue was only Rs. 819, compared with an average of Rs. 79,473. The reasons given for the large fall in the receipts are that the Jalangi River had deteriorated so much that it was found impossible to keep it open, and for the greater part of the year it was unnavigable for large boats. There was some improvement in the Bhagirathi, but the depth of water was not sufficient to float the large boats which usually ply on the Jalangi. Altogether the number of boats in these rivers fell off by 6,600 or 12 per cent., and the tonnage fell from 7,89,000 to 6,68,000.

tons. The rise in the expenditure is to be accounted for in the gradual deterioration of these rivers, and the consequent increase in the cost of training works both at the heads, and in the courses of the rivers.

30. The area irrigated from the Eden Canal during the year was 20,390 acres, as compared with 11,739 acres in 1893-94. The rainfall, though not large, was seasonable, and in the kharif season it was as copious as in the previous season. Out of a total demand of Rs. 69,662 only Rs. 29,674 were collected against Rs. 35,943 in 1893-94, and the outstanding balance (after remissions) was Rs. 33,169. Such large arrears must not be allowed to accrue in future. The expenditure was Rs. 52,738 against Rs. 50,340 in the previous year. Only half of this expenditure was on maintenance, and the rest was devoted to original works and improvements.

31. The amount of inspection done by the Superintending Engineer, Orissa Canals, was too small, but the other Superintending Engineers and all the Executive Engineers devoted a full and sufficient amount of time to this duty.

32. Mr. Odling took leave on 12th March 1894, and on his return from furlough has been transferred as Secretary in the Public Works Department and Chief Engineer to the North-Western Provinces, thus severing his connection with Bengal, in which province he has been employed for 30 years. Sir Charles Elliott desires to record his high appreciation of Mr. Odling's services throughout the three years doing which he has been in charge of the Irrigation and Marine Departments in this Province. In the difficult and technical business of the Marine Department his experience and ability have been of the greatest assistance to the Lieutenant-Governor. In the Irrigation Department he has carried out a series of administrative reforms which His Honour had greatly at heart, and the increased punctuality of the assessments, the diminished number of objections, the great decrease in the arrears of water-rates and of certificates needed for the realization of arrears, the alterations in the dates of payment and in the incidence of the water-rates, and the equalisation of the tollage rates in navigation, are results which are equally beneficial to the Administration and to the public who use the canals. At the same time on the professional or engineering side of his duties he has maintained the efficiency of the Sone canal system and improved that of the Orissa system by strengthening its embankment and developing its distributaries.

33. Colonel McArthur officiated as Secretary in Mr. Odling's absence to the Lieutenant-Governor's satisfaction, and as Superintending Engineer he and Mr. Buckley have contributed largely to the successful working of the department.

ORDER.—Ordered that a copy of this Resolution and of the Chief Engineer's note, and its accompaniments, be submitted to the Government of India in the Public Works Department, and published in the *Calcutta Gazette*. Also that it be circulated to other Governments and to all Departments and Officers of this Government as usual.

By order of the Lieutenant-Governor of Bengal,

O. C. LEES,

Under-Secretary to the Govt. of Bengal.

Government of Bengal.
IRRIGATION DEPARTMENT.
REVENUE REPORT.

Note by COL. A. D. McARTHUR, R.E., Offg. Chief Engineer, on the Canal Revenue Reports of Bengal for the year 1894-95.

THE Capital expenditure on Irrigation Works in 1894-95 was as follows:—

	Direct charges. Rs.	Indirect charges. Rs.	Total. Rs.
Capital expenditure not charged against			
Revenue ...	4,82,915	11,166	4,94,081
Minor Works and Navigation ...	46,818	634	47,452
	—	—	—
Total ...	5,29,733	11,800	5,41,533
	—	—	—

2. The total Capital outlay at the end of the year 1894-95, excluding interest charges was:—

	Direct charges. Rs.	Indirect charges. Rs.	Total. Rs.
<i>Major Irrigation Works—</i>			
Productive Public Works ...	6,22,88,824	17,37,487	6,40,26,311
<i>Minor Works and Navigation—</i>			
Protective grants—Imperial ...	8,66,000	...	8,66,000
Ordinary revenue { Imperial and Provincial. }	1,01,07,578	2,85,415	1,03,92,993
	—	—	—
Total ...	7,32,62,402	20,22,902	7,52,85,304
	—	—	—

3. The outlay abstracted above is shown in the following statement divided under the different projects:—

WORKS.	During 1894-95.			To end of 1894-95.		
	Direct charges.	Indirect charges.	Total.	Direct charges.	Indirect charges.	Total.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
<i>Major Irrigation Works—</i>						
Orissa Canals ...	3,37,713	7,766	3,45,479	2,56,64,409	5,78,653	2,62,43,062
Midnapore Canal ...	...	...	...	82,61,317	1,84,152	84,45,469
Hijili Tidal Canal ...	1,06,322	2,623	1,08,945	23,69,067	59,114	24,28,181
Sone Canals ...	38,830	777	39,607	2,59,04,031	9,15,568	2,69,09,599
Total ...	4,82,915	11,166	4,94,081	6,22,88,824	17,37,487	6,40,26,311
<i>Minor Works and Navigation—</i>						
Tirhut project ...	...	...	...	5,31,425	74,650	6,06,075
Damodar project ...	(—) 1,200	...	(—) 1,200	1,43,941	16,239	1,60,180
Calcutta and Eastern Canals ...	1,076	...	1,076	52,96,118	62,404	53,58,522
Orissa Coast Canal ...	46,942	634	47,576	43,32,524	1,04,939	44,37,463
Saran Canals ...	...	...	...	6,69,570	27,183	6,96,753
Total ...	46,818	634	47,452	1,09,73,578	2,85,415	1,12,58,993
GRAND TOTAL ...	5,29,733	11,800	5,41,533	7,32,62,402	20,22,902	7,52,85,304

REVENUE.

4 The statement below shows the totals for the last five years, of the receipts, working expenses, and interest charges for Major Irrigation Works:—

PARTICULARS.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Receipts from all sources (less refunds of revenue) ...	13,39,141	15,98,608	18,83,347	16,65,005	15,20,127
Working expenses (direct and indirect charges) ...	14,32,136	14,37,935	14,85,993	15,41,144	14,62,049
Net revenue ...	(—) 92,995	1,60,673	3,97,954	1,23,861	58,078
Charges for interest ...	23,87,119	24,16,363	24,42,363	24,61,878	24,81,895
Deficit ...	24,80,114	22,55,690	20,44,409	23,38,017	24,23,817
Rate per cent. of deficit on Capital outlay ...	4.02	3.61	3.24	3.68	3.79

INTEREST

5. The total amount of interest payable to the Imperial Treasury on account of Major Irrigation Works for the year 1894-95 is Rs. 24,58,205.

6. The financial results of Major Irrigation Works to the end of the year 1894-95 were as follows:—

FINANCIAL RESULTS.

		Major Irrigation Works.	
		Rs.	
Direct revenue	...	...	2,46,96,145
Working expenses (direct charges)	...	...	2,40,66,691
Results on direct charges only	...	Profit	6,29,454
Indirect charges debitable to revenue	...	...	13,68,776
Results on both direct and indirect charges	...	Loss	(—)7,39,322
Charges for interest on Capital	...	...	4,86,18,575
Net results, including interest to end of 1894-95		Loss	(—)4,93,57,897

7. The financial results to the close of the year 1894-95 of Minor Works and Navigation are shown below:—

	Works for which capital and revenue accounts are kept.		Works for which only revenue accounts are kept.	
	Rs.		Rs.	
Direct revenue	...	2,39,65,341	...	88,80,539
Working expenses (direct charges)	...	1,02,72,426	...	49,63,337
Results on direct charges only	Profit	1,36,92,915	Profit	39,17,202
Indirect charges debitable to revenue	...	3,09,484	...	2,64,957
Results on both direct and indirect charges	Profit	1,33,83,431	Profit	36,52,245

8. The following statement shows the financial results of Irrigation, Navigation, and Agricultural Works during the year compared with those of 1893-94:—

RECEIPTS.	1893-94.	1894-95.
	Rs.	Rs.
XXIX—Major Irrigation Works—Direct Receipts—Provincial	...	...
XXX—Minor Works and Navigation—Irrigation and Navigation Works—Provincial	...	...
Total	24,05,913	22,07,741

EXPENDITURE.*

42—Major Irrigation Works—Working Expenses—(Direct and indirect charges) Provincial	...	15,48,765	14,65,962
43—Minor Works and Navigation—Irrigation and Navigation Works—(Direct and indirect charges) Provincial	...	5,99,458	6,11,616
Total	...	21,48,223	20,77,578
NET REVENUE FROM IRRIGATION AND NAVIGATION WORKS	...	2,57,690	1,30,163
49—Imperial—Capital expenditure not charged against Revenue	...	4,96,317	3,58,575
43—Provincial—Capital expenditure charged against Revenue...	...	74,838(a)	1,82,958(b)
	...	5,71,155	5,41,533

* Inclusive of refunds of revenue.
(a) Includes Rs. 30,988 on account of Major Irrigation Works classed as 43—Minor Works and Navigation, under the orders of the Government of India.
(b) Includes Rs. 1,35,906 on account of Major Irrigation Works classed as 43—Minor Works and Navigation, under the orders of the Government of India.

				1893-94.	1894-95.
				Rs.	Rs.
43—Minor Works and Navigation—					
Agricultural Works—					
RECEIPTS.					
Provincial—					
Collections by P. W. D.	...	...	...	11,380	11,912
Ditto by Civil officers	...	...	...	1,28,071	1,81,347
Total	...	...	...	1,39,451	1,93,259
EXPENDITURE.					
Provincial	...	...	...	8,33,429	6,93,176
Contributions	...	...	...	19,187	10,637
Total	...	...	...	8,52,616	7,03,813

REAS IRRIGATED.

9. The areas irrigated by the Major Irrigation Works, during the year 1894-95, and the four previous years, are shown in the following statement:—

Year.	ORISSA CANALS.				MIDNAPORE CANAL.				SONE CANALS.				TOTAL.			
	Kharif.	Rabi.	Perennial.	Total.	Kharif.	Rabi.	Perennial.	Total.	Kharif, including five-year and long-term leases.	Rabi, including five-year and long-term leases.	Perennial and hot weather.	Total.	Kharif.	Rabi.	Perennial.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1890-91	Acres. 175,829	Acres. 4,250	Acres. 220	Acres. 180,299	Acres. 82,002	...	...	Acres. *82,002	Acres. 255,980	Acres. 20,632	Acres. 4,402	Acres. 281,014	Acres. 513,811	Acres. 24,882	Acres. 4,622	Acres. 543,315
1891-92	173,453	3,943	289	177,685	83,905	68	...	Acres. *83,973	296,219	177,308	1,196	474,723	553,577	181,319	1,485	736,381
1892-93	158,025	2,594	333	160,952	91,217	...	...	Acres. *91,217	274,839	136,195	9,727	410,761	524,081	128,789	10,060	602,930
1893-94	100,406	2,904	216	103,526	85,763	...	...	Acres. *85,763	280,528	66,458	19,700	366,776	466,607	63,362	20,006	556,065
1894-95	118,116	4,102	343	122,561	69,941	175	...	Acres. *70,116	258,361	41,664	17,109	317,134	446,418	45,941	17,452	509,811

* Exclusive of lands surreptitiously irrigated, for which leases were granted in subsequent years.

The results of the working of each of the canal systems of the province during the year will now be described separately as in previous years.

GENERAL.

In all statements showing totals of receipts or expenditure, the figures are those of the Examiner of Accounts. In dealing with details, the figures of the Commissioner or of the Superintending Engineer have been taken.

ORISSA CANALS.

CAPITAL ACCOUNT.

10. The Capital, Interest, and Revenue Accounts of these canals are given below:—

I.—CAPITAL ACCOUNT.

HEADS OF ACCOUNT.				Outlay during 1894-95.	Outlay to end of 1894-95.
1				2	3
DIRECT CHARGES				Rs.	Rs.
I.—Works	...	...	...	2,63,128	1,86,38,983
II.—Establishment	...	...	...	55,114	46,37,815
III.—Tools and plant	...	...	...	25,427	20,65,399
IV.—Suspense accounts	...	...	...	(—)5,920	1,40,379
Loss by exchange	...	...	...	...	2,68,070
Total	...	...	...	3,37,749	2,57,50,646
V.—Less—Receipts on Capital account	...	...	...	36	86,237
Net total Direct Charges	...	...	...	3,37,713	2,56,64,409
INDIRECT CHARGES.					
Capitalization of abatement of land revenue	...	...	...	50	33,233
Leave and pension allowances	...	...	...	7,716	5,45,420
Total Indirect Charges	...	...	...	7,766	5,78,653

The principal works charged to capital account in progress during the year were:—The raising of the right or flood bank of the Kendrapara extension canal; the construction of the Bara Kharsua flood embankment, which protects the Jajpur canal distributaries; the completion of the new distributaries from the Jalanda, Machgong, Gobri, Patamundi, and Jajpur canals; the construction of offices for zilladars at Munijunga, Jagatsingpur, Kendupatna, Kendrapara, Janapur and Aquapada; and quarters for sectional officers at Gopalpore, Marsaghai, Nurtang, Dasruthpore and Orai.

A few small drainage cuts and syphons for drainage under distributaries were constructed.

Since 1890-91 the expenditure on distributaries has been Rs. 7,18,371. The balance remaining to be spent on them is Rs. 41,614.

2.—INTEREST ACCOUNT.

		Rs.	INTEREST ACCOUNT.
Interest charges to end of 1893-94	...	1,86,67,621	
Ditto for 1894-95	...	10,19,822	
Total	...	1,96,87,443	

3.—REVENUE ACCOUNT—(Actuals).

PARTICULARS.	EXPENDITURE—		PARTICULARS.	RECEIPTS—		REVENUE ACCOUNT.
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.	
1	2	3	4	5	6	
<u>DIRECT CHARGES.</u>	Rs.	Rs.		Rs.	Rs.	
I.—Works, maintenance, and establishment	4,14,566	3,69,037	Water-rates ...	2,09,542	1,93,550	
II.—Revenue management ...	90,828	86,776	Navigation ...	1,43,911	1,15,201	
			Miscellaneous ...	23,122	24,321	
Total Direct Charges ...	5,05,394	4,55,813	Total ...	3,76,575	3,33,072	
			Less—Refunds of revenue.	1,210	727	
<u>INDIRECT CHARGES</u> ...	30,083	27,507	Net total receipts	3,75,365	3,32,345	
			Deficit ...	1,60,112	1,50,975	
Total Working Expenses	5,35,477	4,83,320	Total ...	5,35,477	4,83,320	

NOTE.—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph 12 following.

There was a decrease in both the receipts and expenditure, but the deficit was slightly less than in the previous year. The falling off in the navigation receipts is probably only temporary, and the receipts were enhanced in the previous year on account of the large pilgrim traffic.

11. The following statement compares the earnings with the outlay for the last two years. The term "earnings" as applied to irrigation denotes the assessed water-rate value of the irrigation effected during the year; as applied

EARNINGS.

the stations in the Central Provinces, from which the Mahanadi derives the greater part of its supply, was 60·27 inches in 1894-95, as compared with 94·74 inches in 1893-94.

FLOODS.

15. The maximum flood levels recorded during the year are compared in the following table with the maximum levels in 1893-94 and with the highest recorded levels:—

NAME OF RIVER.	Locality.	1894-95.		1893-94.		HIGHEST RECORDED.	
		Date.	Read- ing.	Date.	Read- ing.	Date.	Read- ing.
1	2	3	4	5	6	7	8
Mahanadi	Naraj above weir	28th July 1894	89'40	26th September 1893	87'75	26th July 1892	92'10
	Do. below weir	28th "	89'40	26th "	87'60	26th "	92'10
	Jobra above weir	28th "	73'45	26th "	71'15	25th "	75'95
	Do. below weir	28th "	71'95	26th "	69'85	25th "	74'00
Brahmini	Janapur above weir	26th "	69'00	14th "	66'10	26th " 1894	69'60
	Ditto below weir	26th "	68'60	14th "	65'70	26th "	68'60
Byturni	Aquapada above weir	26th "	64'60	13th "	63'80	16th "	66'60
	Ditto below weir	26th "	61'60	13th "	60'80	16th "	63'70
Salindi	Randia	25th "	58'48	13th "	53'40	12th Sept. 1892	59'78
Katjuri	Bellevue	28th "	80'00	6th August	78'50	25th July	83'30
Beropa	Jagatpur above weir	28th "	69'35	26th September	67'70	4th " 1872	71'10
	Ditto below weir	28th "	68'50	26th "	65'50	4th "	70'60

The Superintending Engineer writes:—

"The flood in the Mahanadi was a moderate one, and caused no injury to the canal works. The flood in the Brahmini was a very high one. It overtopped and breached the protective embankment under construction on the Khursua river, and did considerable damage to some of the new distributaries of the Jajpur Canal."

IRRIGATION.

16. The assessed and irrigated areas for the last ten years with the yearly rainfall are shown in the following statement:—

YEAR.	Kharif.	Rabi.	Perennial.	Total.	Rainfall.
1	2	3	4	5	6
	Acres.	Acres.	Acres.	Acres.	Inches.
1885-86	70,563	1,605	171	72,339	52·59
1886-87	75,115	2,440	154	77,709	60·07
1887-88	108,867	502	137	109,506	47·84
1888-89	156,319	2,779	194	159,292	49·07
1889-90	180,568	5,897	162	186,627	67·95
1890-91	175,829	4,250	220	180,299	63·17
1891-92	173,453	3,943	289	177,685	61·03
1892-93	158,025	2,594	333	160,952	56·43
1893-94	100,406	2,904	216	103,526	74·83
1894-95	118,116	4,102	343	122,561	58·91

17. The following statement shows the details of the assessments as compared with the figures of the two preceding years:—

CROP.	Rate per acre.	1892-93.		1893-94.		1894-95.	
		Area.	Amount.	Area.	Amount.	Area.	Amount.
1	2	3	4	5	6	7	8
Kharif ... { Flow ...	Rs. A. P. 1 8 0	(b) 155,727	Rs. 2,33,448	(c) 94,679	Rs. 1,41,916	(d) 108,399	Rs. 1,61,922
Dhoya ... { Lift ...	1 0 0	(b) 2,197	2,197	(c) 5,553	2,876	(d) 274	274
Perennial crops ... { Flow ...	0 8 0	125	748	135	812	(d) 8,664	4,326
Dhoya ... { Lift ...	4 0 0	208	834	81	325	172	1,024
Rabi ... { Flow ...	0 8 0	...	...	...	...	171	687
Dhoya ... { Lift ...	0 8 0	...	...	...	...	...	...
Rabi ... { Flow ...	2 0 0	2,291	2,408	2,713	3,239	3,440	4,429
Dhoya ... { Lift ...	0 5 0	303	263	191	199	662	657
Unauthorized irrigation { Kharif ...	1 8 0	101	302	174	779	779	2,883
Unauthorized irrigation { Rabi ...	0 8 8	...	...	...	...	...	...
Total	...	160,952	2,40,200	103,526	1,50,146	122,561	1,76,202

(a) 170,816 acres 5-year lease, and 2,626 acres annual lease.
 (b) 156,566 acres 5-year lease, and 1,358 acres annual lease.
 (c) 100,232 acres 5-year lease only.
 (d) 117,188 acres 5 years lease, and 147 acres annual lease.

The area of unauthorized irrigation was 779 acres against 174 acres in 1893-94.

The increase in the kharif leased area was mainly due to the renewal of lapsed leases on all the canals. The decrease on the High Level Canal, Range III, is due to the non-renewal of many of the lapsed leases which were taken out during the drought of 1888. The greater portion of the area commanded by this canal, it is said, does not require canal water except in years of drought.

Of the commanded area 21·97 per cent., and of the area provided with distributaries 31·47 per cent. were under lease during the year.

18. The statement below shows the duties obtained in the kharif and rabi seasons on each of the canals, calculated from the gross discharge at the canal heads:—

PARTICULARS.		Kendra-para Canal system.	Taldunda Canal system.	High Level Canal, Range I.	High Level Canal, Range II.	High Level Canal, Range III.	Jajpur Canal.
1		2	3	4	5	6	7
1894-95.	{ Kharif ... Acres	62,840	24,136	12,878	2,453	14,120	1,689
	{ Duty on gross supply	64·38	68·18	35·91		75·42	91·89
1893-94	{ Kharif ... Acres	59,393	11,941	10,468	2,000	15,801	...
	{ Duty on gross supply	67·56	73·82	35·95	142·25	113·50	...
	{ Rabi ... Acres	1,866	113	23	52	1	...
	{ Duty on gross supply	3·78	1·21	0·16	6·21	0·44	...
1892-93	{ Kharif ... Acres	65,724	36,327	20,950	2,285	32,194	...
	{ Duty on gross supply	64·93	114·97	60·51	119·76	98·95	...
	{ Rabi ... Acres	2,004	264	275	44	7	...
	{ Duty on gross supply	5·80	13·03	1·82	74·58	0·74	...

The duties in the kharif season calculated (i) on the gross discharge entering, (ii) on the discharge utilized, are given below:—

	Kendrapara Canal system.	Taldunda Canal system.	High Level Canal, Range I.	High Level Canal, Range II.	High Level Canal, Range III.	Jajpur Canal.
1	2	3	4	5	6	7
Area of kharif irrigation ... Acres	62,840	24,136	12,878	2,453	14,120	1,689
Average gross discharge at head of canal ... C. ft.	976·00	354	358·62	...	187·23	18·38
Average discharge utilized ... "	869·57	345	173·27	...	173·67	18·38
Duty of quantity entering canal ... Acres	64·38	68·18	35·91	...	75·42	91·89
Ditto utilized ... "	72·26	69·95	74·32	...	81·30	91·89

Results of experiments on average rice crops broadcast, 1894-95.

DIVISION.	IRRIGATED LANDS.						UNIRRIGATED LANDS.					
	Number of experi- ments.	AVERAGE YIELD PER ACRE WEIGHED DRY.					Number of experi- ments.	AVERAGE YIELD PER ACRE WEIGHED DRY.				
		Paddy.		Num- ber of experi- ments.	Straw.			Paddy.		Straw.		
		Maunds.	Seers.		Maunds.	Seers.		Maunds.	Seers.	Maunds.	Seers.	
1	2	3	4	5	6	7	8	9	10	11	12	
Mahanadi	37	32	25	37	54	18	23	24	5	31	21	
Brahmini-Byturni	56	21	33	56	54	15	3	19	5	24	35	
Aquapada-Jajpur	34	28	20	34	52	19	12	20	29	33	37	
Orissa Circle average	127	26	33	...	45	3	37	22	25	31	31	

Taking the average of the experiments on both "transplanted" and "broadcast" rice crops on irrigated lands, the results are as follows compared with those obtained in the Sone Circle:—

		Quality of crop.	OUTTURN PER ACRE.	
			Paddy maunds.	Straw maunds.
1	2	3	4	
Orissa	...	Good ...	32.98	57.85
		Average ...	25.07	44
Sone	...	Good ...	31.92	75.38
		Average ...	24.12	57.3

The results as regards grain agree very closely.

The value of the rice outturn from the irrigated lands in Orissa was Rs. 32.86 per acre, while from the unirrigated lands, it was Rs. 29.82 per acre.

20. The demands, collections and balances of water-rates are shown below for the last five years:—

ASSESSMENTS
AND COLLEC-
TIONS.

YEARS.	Amount outstanding at commencement of year.	Amount falling due during the year.	Total for recovery.	Cash realisations.	Remitted or written off.	Balance at the end of the year.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1890-91 ...	1,76,762	2,69,650	4,46,412	2,09,806	38,242	1,98,364
1891-92 ...	1,98,364	2,82,880	4,81,244	2,17,256	30,284	2,33,704
1892-93 ...	2,33,704	2,61,023	4,94,727	3,52,368	52,543	89,816
1893-94 ...	89,816	1,90,824	2,80,640	2,09,542	7,748	63,350
1894-95 ...	63,350	1,68,449	2,31,799	1,93,550	6,109	32,140

The reduction in the outstanding balance is satisfactory. Of the total, Rs. 6,109, remitted and written off, Rs. 3,959 was classed as remission, and

2930 SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 18, 1895.

Rs. 2,150 written off as irrecoverable. Including miscellaneous revenue, the total amount realized by the Deputy Collector was Rs. 2,12,178 as against Rs. 2,26,851 realised in the previous year.

CERTIFICATES.

21. The amount of certificate work done in each district is shown in the following statement:—

	CUTTACK.				BALASORE.				TOTAL.			
	1893-94.		1894-95.		1893-94.		1894-95.		1893-94.		1894-95.	
	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
1	2	3	4	5	6	7	8	9	10	11	12	13
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Cases for disposal—												
1. Cases pending at the close of the preceding year ...	863	6,153	423	3,546	116	3,345	53	509	979	9,498	476	4,055
2. Cases instituted during the year ...	4,803	22,239	4,421	22,094	1,864	7,784	1,362	5,370	6,667	30,023	5,683	27,464
Total ...	5,666	28,392	4,844	25,640	1,980	11,129	1,315	5,879	7,646	39,521	6,159	31,519
Cases disposed of—												
1. By being struck off owing to the demand having been remitted ...	249	2,865	197	979	60	467	35	358	309	3,332	232	1,330
2. By being wholly satisfied ...	4,004	21,981	4,523	23,026	1,807	10,153	1,278	5,504	6,861	32,134	5,800	29,130
Total ...	5,243	24,846	4,919	24,598	1,927	10,620	1,313	5,862	7,170	35,466	6,032	30,460
Balance outstanding at the close of the year ...	423	3,546	125	1,042	53	509	2	17	476	4,055	127	1,029

The results are satisfactory. There was less need to resort to this method of recovering water-rates and miscellaneous revenue during the year than in either of the two previous years. The number of cases pending at the end of the year is very small.

OBJECTIONS TO ASSESSMENTS.

22. The following table shows the number of objections filed against assessment and disposed of during the year:—

DIVISION.	CLAIMS FOR ORDINARY REMISSION.				OTHER COMPLAINTS.			Total complaints received during the year, excluding those pending from previous year.	Pending.
	Received during the year and pending from previous year.	Disposed of—		Pending.	Received during the year and pending from last year.	Disposed of—			
		Remission allowed.	Remission refused.			Pending.	Pending.		
1	2	3	4	5	6	7	8	9	10
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Revenue ...	783	351	284	148	50	13	7	655	165
Mahanadi ...	135	65	57	13	57	53	4	189	17
Brahmini-Byturni ...	294	101	187	6	42	41	1	328	7
Akhoyapada-Jajpur ...	600	228	202	79	61	53	3	479	73
Total ...	1,712	745	739	237	180	165	15	1,651	252

REMISSION.

23. The following is a statement of the amounts remitted, and written off as irrecoverable, during the year on account of water-rates, &c., compared with the figures of the previous year:—

Revision of Assessment.

	1893-94.	1894-95.
	Rs.	Rs.
(a) Unirrigated crops ...	2,640	2,155
(b) Damaged „ ...	153	287
(c) Chaulkidar's jagir ...	1,942	382
Total ...	4,735	2,824

28. The expenditure on maintenance and repairs during the year is shown in the following statement, compared with the expenditure in 1893-94 and in 1892-93:—

	1892-93.	1893-94.	1894-95.
1	2	3	4
	Rs.	Rs.	Rs.
Extensions and improvements ...	9,123	29,355	6,547
Head-works ...	53,456	45,757	59,800
Main canals ...	1,23,060	1,27,400	1,21,928
Distributaries ...	30,033	29,261	27,950
Drainage and protective works ...	11,997	8,237	5,480
Cost of working transport service ...	11,814	15,707	13,094
Total ..	2,39,483	2,55,717	2,34,799

The Superintending Engineer states that the expenditure on Extensions and Improvements was confined to revetting some portions of the bank of the Kendrapara and Gobri Canals with stone, to protect them from the wash of steamers, and to the completion of the new under sluice shutters of the Sone type at the Byturni weir.

The expenditure on maintenance and repairs was normal.

29. The cost of maintaining each of the weirs is shown below:—

NAME OF WEIR.	Length.	EXPENDITURE.			RATE PER RUNNING FOOT.		
		1892-93.	1893-94.	1894-95.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8
	Feet.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Naraj ...	3,833	4,031	5,621	2,505	1.05	1.48	0.65
Mahanadi ...	6,349	15,136	14,718	16,144	2.38	2.32	2.54
Beropa ...	1,980	9,546	4,043	5,980	4.77	2.04	3.00
Brahmini ...	4,000	2,985	4,044	1,906	0.74	1.01	0.48
Pattia ...	783	3,224	4,019	4,776	4.11	5.13	6.10
Byturni ...	1,026	4,604	4,315	2,810	4.48	4.20	2.74
Burra ...	526	3,140	2,262	15,306	5.97	4.30	29.10
Total of all weirs ...	18,497	42,666	39,022	49,427	2.30	2.11	2.09

30. The following statement shows the expenditure on each canal for the last three years:—

CANALS.	1892-93.			1893-94.			1894-95.		
	Miles.	Cost.	Per mile.	Miles.	Cost.	Per mile.	Miles.	Cost.	Per mile.
1	2	3	4	5	6	7	8	9	10
	No.	Rs.	Rs.	No.	Rs.	Rs.	No.	Rs.	Rs.
Kendrapara ...	39	40,132	1,029	39	38,112	977	39	42,458	1,089
Ditto extension ...	15	7,639	509	15	17,901	1,193	15	4,970	331
Gobri ...	15	7,747	517	15	8,045	536	15	10,132	675
Do. extension ...	9	5,008	556	9	4,737	526	9	7,471	833
Pattamuodi ...	47	5,526	181	47	7,698	164	47	13,460	286
Taldunda ...	51½	14,051	271	51½	11,053	213	51½	16,591	320
Machgong ...	32	11,163	349	32	11,097	346	32	7,134	223
High Level, Range I ...	33	8,914	270	33	12,266	371	33	9,283	281
Ditto, do. II ...	12½	6,836	547	12½	4,539	363	12½	3,209	257
Ditto, do. III ...	19	6,870	362	19	7,609	390	19	5,792	305
Jajpur Canal ...	6½	1,932	297	6½	1,547	237	6½	1,024	157
Total ...	279½	1,18,818	425	279½	1,24,604	395	279½	1,31,524	434

The increased expenditure on the Kendrapara, Pattamundi and Taldunda Canals was due to a more extensive clearance of silt than in previous years, and on the Gobri Canal, to thorough repairs having been carried out during the closure of the canal. On the other canals the expenditure compares favourably with that of the two previous years.

DISTRIBUTU-
TARIES.

31. The maintenance cost of the distributaries per mile is shown below. The average rate of Rs. 36 shows a satisfactory decrease as compared with the mileage rates of 1893-94 and of 1892-93, which were Rs. 38 and Rs. 39, respectively.—

	1892-93.			1893-94.			1894-95.		
	Miles.	Cost.	Per mile.	Miles.	Cost.	Per mile.	Miles.	Cost.	Per mile.
1	2	3	4	5	6	7	8	9	10
DISTRIBUTARIES.	No.	Rs.	Rs.	No.	Rs.	Rs.	No.	Rs.	Rs.
Kendrapara Canal System ...	357	14,426	40.49	357	11,182	31.32	357	10,340	29
Taldunda Canal ...	71½	3,784	52.92	71½	2,662	36.97	71½	3,948	55
Machgong Canal ...	122½	6,034	41.17	122½	4,693	38.46	122½	4,656	38
High Level Canal, Range I ...	131½	2,945	22.43	131½	4,648	35.48	131½	4,013	31
Ditto, do. II ...	...	...	...	...	...	...	...	...	...
Ditto, do. III ...	49½	2,164	43.71	49½	3,600	73.46	49½	3,281	66
Pattamundi Canal ...	37½	680	18.25	37½	2,477	66.95	37½	1,710	46
Total ...	768½	30,033	39	768½	29,362	38	768½	27,948	36

The lengths of distributaries in the above are those which have been brought on the revenue account, and consequently differ from the lengths given in paragraph 13 which include all so far advanced as to be fit for use, whether the capital account is still open or not.

DRAINAGE
AND
PROTECTIVE
WORKS.

32. The total expenditure on these works was Rs. 5,480, which is considerably less than the expenditure in any of the three previous years. It includes the upkeep of 131 miles of first class protective embankments and 247 miles of drainage cuts.

DREDGING
AND SILT-
CLEARING.

33. The following table shows the cost of silt clearing and dredging during the year 1894-95 :—

NAME OF CANALS.	Silt-clearing.			Dredging.		
	Quantity.	Rate per 1,000.	Cost.	Quantity.	Rate per 1,000.	Cost.
1	2	3	4	5	6	7
	C. feet.	Rs.	Rs.	C. feet.	Rs.	Rs.
Kendrapara Canal ...	6,126,469	3.64	22,298	617,282	4.94	3,049
" Extension ...	39,762	14.91	593	10,400	17.40	181
Pattamundi Canal ...	1,771,795	2.12	3,765	...	...	...
Gobri Canal ...	1,679,793	1.72	2,892	22,428	7.53	169
" Extension ...	1,144,257	2.50	2,868	30,168	8.19	247
High Level Canal, Range I ...	948,304	2.86	2,713	...	...	...
Ditto, " II ...	78,829	2.51	198	...	...	...
Ditto, " III ...	232,287	2.41	550	...	...	...
Jajpur Canal ...	...	...	...	...	...	...
Taldunda Canal ...	1,731,525	2.90	5,030	364,633	7.63	2,799
Machgong Canal ...	223,954	2.20	491	...	...	...
Total ...	13,976,975	2.96	41,398	1,044,911	6.17	6,445
Total, 1893-94 ...	3,726,140	3.16	11,775	1,105,270	4.97	5,490

There was an extensive clearance of silt, which had to a large extent been deposited during the cyclone of the previous year, in all the canals of the Kendrapara system. The Superintending Engineer writes :—

"The quantity removed by means of the steam dredgers was rather less than in the previous year, but the total cost and the average rate was higher. This is due to the high rate on the Taldunda Canal. The rate on the Kendrapara Canal (including lifting on boats

by the dredgers and carrying to the spoil banks by manual labour) was Rs. 4·94 per 1,000, as against Rs. 6 24 in the previous year. The Executive Engineer, Mahanadi Division, explains the high rate, viz., Rs. 7·68 per 1,000 on the Taldunda Canal, as due to the extra lead in carrying the silt dredged to fill up and improve some low ground near the steamer ghat."

34. The receipts from the Postal and Telegraph offices at Jagatpur, Kendu-patna, Aquapada, and Janapur amounted to Rs. 1,083 during the year. The amount guaranteed by the Department was Rs. 1,464. The difference Rs. 381 is a charge against the canal revenue. TELEGRAPH OFFICES.

35. The following statementshows the number of trees in each Division in PLANTATIONS. 1894-95 compared with the numbers in the previous year :—

DIVISIONS.	NUMBER OF TREES.		Difference.
	1893-94.	1894-95.	
1	2	3	4
Mahanadi ...	33,736	37,917	+ 4,181
Brahmini-Byturni ...	77,709	72,874	— 4,835
Acquapada-Jajpur ...	23,568	25,891	+ 2,323
Total ...	1,35,013	1,36,682	+ 1,669

The reduction in the Brahmini-Byturni division is reported as being chiefly due to the omission of about 5,000 self-sown seedling date palms which are of no use. The receipts from plantations amounted to Rs. 2,515. Babu Jagdum Sahai was in charge of the Revenue Division during the year and did good work.

MIDNAPORE CANAL.

36. The Capital, Interest, and Revenue Accounts of this Canal are given below :—

1.—CAPITAL ACCOUNT.

CAPITAL ACCOUNT.

HEADS OF ACCOUNT.	Outlay during 1894-95.	Outlay to the end of 1894-95.
1	2	3
	Rs.	Rs.
Direct charges	82,92,875
Less—Receipts on Capital Account	...	31,558
Total direct charges	82,61,317
Indirect charges	1,84,152

There was no expenditure under this head during the year.

INTEREST
ACCOUNT.

2.—INTEREST ACCOUNT.

			Rs.
Interest charges to end of 1893-94	...	...	70,69,948
Ditto for 1894-95	...	...	3,30,453
Total	...	...	74,00,401

REVENUE
ACCOUNT.

3.—REVENUE ACCOUNT (Actuals).

PARTICULARS.	EXPENDITURE—		PARTICULARS.	RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
<u>DIRECT CHARGES.</u>	Rs.	Rs.		Rs.	Rs.
I.—Works, maintenance, tools and plant, and work establishment	1,72,985	1,85,104	Water-rates ...	1,65,630	1,36,882
			Navigation ...	1,14,994	1,35,492
II.—Revenue management ...	28,072	30,941	Miscellaneous ...	24,319	22,308
			Total ...	3,04,943	2,94,682
Total direct charges ...	2,01,057	2,16,045			
<u>INDIRECT CHARGES</u> ...	7,133	8,519			
Total working expenses	2,08,190	2,24,564			
Net revenue ...	96,579	69,859	Less—Refunds of revenue ...	174	259
Total ...	3,04,769	2,94,423	Total receipts ...	3,04,769	2,94,423

NOTE—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph 38 following.

EARNINGS.

37. The earnings of the Canal during the year, *i.e.*, the assessed water-rate value of the irrigation done during the year, the assessed tollage, and the actual receipts under the head Miscellaneous, are compared below with the actual outlay:—

EARNINGS.	1893-94.	1894-95.
	Rs.	Rs.
Irrigation ...	1,30,111	1,04,875
Navigation ...	1,19,416	1,31,078
Miscellaneous ...	24,319	22,308
Total ...	2,73,846	2,58,261
Deduct refunds of revenue	174	259
Net earnings...	2,73,672	2,58,002
Outlay ...	2,08,190	2,24,564
Net earned profit ...	65,482	33,438

the Cossye and Rupnarain rivers compared with those of last year and with the highest recorded levels:—

River.	Locality.	1893-94.		1894-95.		HIGHEST RECORDED.	
		Date.	Reading.	Date.	Reading.	Date.	Reading.
1	2	3	4	5	6	7	8
Cossye ...	Midnapore above weir	24th June 1893	91.70	25th July 1894	85.70	1868	92.30
	Ditto below weir	Ditto	79.00	Ditto	84.00	Do.	91.55
	Panchkurah above weir	23rd June 1893	32.50	26th July 1894	33.50	10th October 1876	35.00
Rupnarain ...	Ditto below weir	Ditto	32.20	Ditto	33.40	Ditto	34.30
	Dainan	11th September 1893	15.80	2nd September 1894	16.30	26th August 1885	17.34
	Kantapukhur	26th May 1893	16.50	Ditto	16.40	Ditto	16.80

The greatest discharge of the Cossye during the year was 40,071 cubic feet per second. After September the discharge diminished rapidly. The minimum discharge occurred on the 23rd March 1895, when only 16 cubic feet per second was registered.

43. The areas of the crops irrigated and leased during 1894-95 and the ten previous years, as also the average annual rainfall are shown below:—

YEAR.	Kharif.	Rabi.	Perennial.	Total.	Rainfall.
1	2	3	4	5	6
	Acres.	Acres.		Acres.	Inches.
1885-86 ...	68,769	...	...	70,604	81.28
1886-87 ...	69,762	...	...	69,762	53.05
1887-88 ...	64,702	1,162	...	65,864	22.08
1888-89 ..	66,408	3,369	...	69,777	62.13
1889-90 ..	68,370	440	...	68,810	44.47
1890-91 ...	82,002	...	...	82,002	55.68
1891-92 ...	83,905	68	...	83,973	51.81
1892-93 ...	91,217	...	...	91,217	41.28
1893-94 ...	79,550	6,213	...	85,763	70.63
1894-95 ..	69,941	175	...	70,116	55.90

* Mean of observations of two stations—Midnapore and Panchkurah.

† Average of four stations throughout the irrigated areas under the Midnapore and Panchkurah weirs.

The total area leased during the year was 70,116 acres as compared with 88,879 acres of the previous year. The kharif irrigation during the year amounted to 69,941 acres, which was less than that irrigated during 1893-94 by 12,725 acres. The Superintending Engineer writes:—

"The decrease in the area under kharif irrigation was due to the non-renewal of the lapsed leases, owing to the seasonable rainfall of 1894-95. There is practically no rabi irrigation from the Midnapore canal. The large area, viz., 6,213 acres last year was exceptional, and was due to the winter rice crop on a large tract of country having been inundated by a flood, which breached the left bank of the Cossye at Jagatpore, and the sowing of a part of this area afterwards with boro rice."

44. The following tables gives particulars about the areas under leases:—

PARTICULARS.	KHARIF.			Sugarcane and other perennial irrigation.	Rabi.	Total.
	Long leases.	Annual leases.	Surroptitious irrigation.			
1	2	3	4	5	6	7
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Leases in force at the end of 1893-94	82,066	...	206	...	9,562	92,834
" which expired at the end of 1893-94	(a) 15,475	...	206	...	9,562	25,243
" in force at the beginning of 1894-95	67,191	...	...	...	190	67,191
" executed during 1894-95	(b) 2,715	...	...	...	190	2,925
" in force during the year 1894-95	69,926	...	...	...	190	70,116
" which expired at the end of 1894-95	17,224	...	...	...	190	17,414

(a) Includes the decrease due to check measurement.
(b) Ditto increase ditto ditto.

The amount shown in column 3 as falling due during the year 1894-95, includes the amount of water-rate assessments for the boro rice irrigated in 1893-94, which did not fall due until 1st April 1894. The increase was also due to the realization of enhancements of the previous year's rates as a result of check-measurement of the old leases at the time of their renewal. The work done by the Deputy Collector during the year was satisfactory. The Superintending Engineer writes as follows regarding the system of water-rate collections:—

“For the first time notices of assessment were issued by him (the Deputy Collector) showing the area irrigated. The amount of water-rate due, the date of instalment, and other matters, were served upon each lessee with a view to prevent any fraud being practised upon them by tahsildars as to the amount of rates payable.”

48. The following statement shows the arrears of each former year which were outstanding at the beginning of 1894-95, as well as the current dues and the extent to which they have been worked off:—

ARREARS.

YEAR.	Amount previously due and unrealised.	Amount falling due within the year.	Total amount due to end of the year.	ADJUSTMENTS OF THE YEAR.				Balance unrealised at end of the month of March 1895.
				Cash recoveries.	Remissions authorised.	Written off as being irrecoverable.	Total.	
1	2	3	4	5	6	7	8	9
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1891-92 ...	162 9 0	...	162 9 0	109 5 0	53 4 0	...	162 9 0	...
1892-93 ...	1,055 12 0	218 14 0	1,274 10 0	1,254 1 3	20 8 9	...	1,274 10 0	...
1893-94 ...	5,808 7 6	29,922 8 0	35,730 15 6	34,844 4 6	191 4 3	...	35,035 8 9	695 6 9
1894-95 ...	...	1,04,875 0 3	1,04,875 0 3	1,00,674 6 6	346 11 3	...	1,01,021 1 9	3,854 14 6
Total ...	7,026 12 6	1,35,016 6 3	1,42,043 2 9	1,36,882 1 3	611 12 3	...	1,37,493 13 6	4,549 5 3

49. The remissions granted during the year were very small and were as follows:—

REMISSIONS

	Rs.
Remissions granted by the Collector under Rule 28 of the Midnapore canal rules ...	85
Remissions granted by Special Deputy Collector under clauses I and II of Rule 24 of the rules ...	26
Remissions granted by Special Deputy Collector under Rule 25 of the rules ...	501
	612

50. The extent to which recoveries by means of certificates were made during the year is shown in the following statement:—

TIFICATES

PARTICULARS.	MIDNAPORE.			
	1893-94.		1894-95.	
	No.	Amount.	No.	Amount.
1	2	3	4	5
<i>Cases for disposal.</i>		Rs.		Rs.
1. Cases pending at the close of the preceding year ...	356	1,962	70	493
2. Cases instituted during the year ...	1,799	12,102	579	5,708
Total ...	2,155	14,064	649	6,201
<i>Cases disposed of.</i>				
1. By being struck off, owing to the demand having been remitted.	48	248	97	1,370
2. By being wholly satisfied ...	2,037	13,323	535	4,602
Total ...	2,085	13,571	632	5,972
Balance outstanding at the close of the year ...	70	493	17	229

The reduction in the number of cases taken out, from 1,799 in 1893-94, to 579 in 1894-95, is very satisfactory and indicates good work on the part of the

OBJECTIONS
TO
ASSESSMENTS

collecting staff. Of the 97 cases struck off during the year, 30 were on account of the demand being irrecoverable owing to the death or insolvency or absconding of the debtors and 67 on account of objections.

51. The number of objections to assessments filed during the year and the nature of their disposal is shown in the following statement:—

DIVISION.	CLAIMS FOR ORDINARY REMISSION.				OTHER COMPLAINTS.			Total complaints received during the year, excluding those pending from previous year.	Pending.
	Received during the year and pending from previous year.	Disposed of		Pending.	Received during the year and pending from last year.	Disposed of.	Pending.		
		Remission allowed.	Remission refused.						
1	2	3	4	5	6	7	8	9	10
Cossye ...	No. 259	No. 44	No. 204	No. 11	No. 229	No. 222	No. 7	No. 459	No. 18

REVENUE-
ESTABLISH-
MENTS.

52. The cost of the revenue establishment during the last five years is shown below:—

ESTABLISHMENT UNDER THE COLLECTOR.	1890-91.	1891-92.	1892-93.	1893-94	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Permanent establishment, including travelling allowances ...	19,757	17,947	20,263	16,620	18,436
Temporary establishment ...	649	682	441	346	1,289
Contingencies ...	1,260	1,154	1,014	1,814	873
Headman's fees ...	60	335	375	325	813
Total ...	21,726	20,118	22,093	19,105	21,411

In addition to the above, the following sums were paid by the Executive Engineer for water regulation:—

		Water-regulation.	
		Permanent.	Temporary.
		Rs.	Rs.
1890-91	...	488	595
1891-92	...	473	682
1892-93	...	419	500
1893-94	...	822	288
1894-95	...	1,187	263

The increased cost of the permanent establishment is due to the transfer of patrols from the Revenue Department to the Executive Engineer's establishment in January 1894. The cost of collecting and assessing was 16·70 per cent. of the amount realized, as compared with 12·2 per cent. of the previous year. The Superintending Engineer attributes the increase to the reduction of demand, owing to the non-renewal of the lapsed leases, and also to the entertainment of temporary amins for check-measurement of the long leases.

NAVIGATION.

53. The navigation receipts of the year amounted to Rs. 1,35,492, as compared with Rs. 1,14,994 in 1893-94. The number of passengers carried by the Calcutta Steam Navigation Company was the largest on record, and the amount of tolls recovered from the Company was Rs. 44,434 as compared with

Rs. 30,647 of the previous year. The Superintending Engineer makes the following remarks:—

"The rice crop was a good one, and consequently the export was large. A large traffic seems to have sprung up in the tidal reaches, consisting of rice from the Ghattal side to Calcutta, and of paddy on the return journey from Calcutta.

"It is probable, however, now that parts of the Buxi khal have been cleared, that during spring tides, and especially during bad weather, these boats will only use that part of the tidal canal from Bansbaria to Ulubaria, so as to avoid the Rupnarain."

There was an increase of 3,698 tons of rice and 50 tons of paddy carried on the Midnapore Canal, as compared with the amounts carried in the previous year.

Particulars regarding the traffic on the canal for the last ten years are tabulated below:—

DESCRIPTION.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7.	8	9	10	11
Miles open ... No.	72	72	72	72	72	72	72	72	72	72
Toll collections ... Rs.	1,25,331	1,01,054	1,08,460	1,25,332	1,16,409	89,556	(a)1,32,572	(a)1,14,141	(a)1,14,394	(a)1,35,492
Rate of toll per mile ... Rs.	2,364	1,906	2,046	2,365	2,196	1,689	1,841	1,585	1,597	1,882
Number of boats, including empty boats ... No.	42,240	45,709	49,028	54,214	52,060	45,054	42,328	40,438	36,910	39,375
Tonnage of boats, ... Tons	372,608	387,440	409,866	470,806	462,418	417,803	411,892	4,10,003	369,691	420,996
Passengers carried ... No.	122,094	208,582	160,567	167,259	176,226	187,700	163,836	(b)205,804	(b)203,653	(b)2,16,525
Estimated value of cargo, including rafts ... Rs.	1,27,22,175	97,25,587	1,18,44,844	1,31,70,269	1,45,12,442	1,48,33,391	1,26,65,724	1,26,04,204	1,22,50,436	1,24,69,708

(a) Inclusive of tolls (Rs. 41,180,29,006, Rs. 30,647, and 44,434) paid by the Calcutta Steam Navigation Company.

(b) Inclusive of passengers (92,257, 100,916) and 109,039 carried by the Calcutta Steam Navigation Company's steamers.

54. The miscellaneous receipts for the last five years were as follows:—

DETAILS.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Sale of water ...	...	...	10	4	...
Plantations ...	52	40	34	44	55
Other canal produce ...	37	5	1	2	1
Rent of buildings ...	721	711	740	712	890
Miscellaneous { Rent of lands	6,079	8,758	8,586	12,468	12,049
" of fisheries	736	4,447	1,162	1,479	1,507
Cost of process	1,009	2,516	1,280	2,173	722
Other items...	370	2,670	5,166	7,437	7,084
Total ...	9,004	19,147	16,979	24,319	22,308

55. The actual cost of maintenance and repairs, exclusive of establishment and tools and plant during the last four years is shown below:—

	1891-92.	1892-93.	1893-94.	1894-95.
	Rs.	Rs.	Rs.	Rs.
Head works, including buildings	8,373	9,965	9,430	15,461
Main canal and branches ...	1,18,241	59,802	67,404	68,702
Distributaries ...	10,365	12,612	20,932	18,501
Drainage and protective works	1,239	2,090	2,058	1,240
Working steamers ...	3,044	2,961	3,354	598
Total ...	1,41,262	87,430	1,03,178	1,04,502

The large increase in the cost of maintaining the head works was due mainly to sand-filling and rubble-packing in front of the under sluices at Mohanpur. The cost of working Government steamers and bholio was only Rs. 598, as compared with Rs. 3,354 in 1893-94. The expenditure on tools and plant was Rs. 39,569, against Rs. 38,788 of the previous year.

61. The expenditure on plantations during the year was Rs. 195, against Rs. 236 of the previous year. A large number of saplings were destroyed by strong winds in June and July 1894. The following table compares the condition of the plantations in 1894-95 with 1893-94 :—

YEAR.	Trees upwards of 12 feet high.	Saplings between 4 and 12 feet.	Seedlings below 4 feet.	Total.
1	2	3	4	5
1894-95	No. 13,010	No. 4,113	No. 3,227	No. 20,350
1893-94	10,151	5,794	3,109	19,054

62. On the whole the administration of the year was satisfactory, though the seasonable rainfall resulted in a falling off in the irrigated area.

Babu Raj Mohan Chakravarti was in charge of the Revenue Division during the year and did good work.

HIJILI TIDAL CANAL.

63. The capital, interest and revenue accounts of this canal are given below :—

1.—CAPITAL ACCOUNT.

HEADS OF ACCOUNT.	Outlay during 1894-95.	Outlay to end of 1894-95.
1	2	3
DIRECT CHARGES.	Rs.	Rs.
I.—Works	81,583	16,62,210
II.—Establishment	18,739	5,51,988
III.—Tools and plant	6,000	1,33,004
IV.—Suspense accounts	.....	.....
Loss by exchange	.....	22,790
Total	1,06,322	23,69,992
V.—Less—Receipts on capital account	.....	925
Net total—direct charges	1,06,322	23,69,067
INDIRECT CHARGES.		
Capitalization of abatement of land revenue	2,623	59,114
Leave and pension allowances	.....	.....
Total—indirect charges	2,623	59,114

The works in connection with the remodelling of the canal are approaching completion. During the year good progress was made with the large sluice on the Haldi river at Terapakia, which, when finished, will be used to feed the second range of the canal. The channel leading from it to the canal, about $2\frac{1}{2}$ miles in length, is intended to act as a silt trap, so that by the time the water reaches the canal it will be free from matter in suspension. No other works charged to capital account were in progress during the year.

2.—INTEREST ACCOUNT.

Interest charges to end of 1893-94	Rs. 17,45,805
Ditto for 1894-95	92,636
	18,38,441

REVENUE
ACCOUNT

3.—REVENUE ACCOUNT (Actuals).

PARTICULARS.	EXPENDITURE—		PARTICULARS.	RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
DIRECT CHARGES.	Rs.	Rs.		Rs.	Rs.
I.—Works, maintenance and repairs ...	50,517	41,339	Water-rates ...	...	...
II.—Revenue manage- ment ...	3,700	41,40	Navigation ...	58,209	57,089
Total Direct Charges ...	54,217	45,479	Miscellaneous ...	987	1,436
Indirect charges ...	2,284	1,947	Total ...	59,196	58,525
Total working expenses	56,501	47,426	Less—Refunds of revenue ...	...	...
Net revenue ...	2,695	11,099	Net total receipts	59,196	58,525
Total ...	59,196	58,525			

NOTE.—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph 64 following.

FINANCIAL
RESULTS.

64. The following statement shows the receipts on revenue account and working expenses for the last ten years:—

PARTICULARS.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9	10	11
RECEIPTS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Navigation ...	52,143	51,904	40,406	53,921	40,338	27,145	36,348	52,180	58,209	57,089
Miscellaneous ...	312	2,500	1,452	1,249	1,614	869	567	1,282	987	1,436
Total ...	52,455	54,404	41,858	55,170	41,952	28,044	36,915	53,462	59,196	58,525
Less—Refunds of revenue ...	...	910	...	73	...	...	...	72	...	...
Total Receipts ...	52,455	53,494	41,858	55,097	41,952	28,044	36,915	53,390	59,196	58,525
WORKING EXPENSES.										
DIRECT CHARGES.										
I.—Works, maintenance, and repairs.										
Works ...	...	...	...	1,718	...	...	...	...	1,925	4
Repairs ...	34,099	11,988	47,928	50,920	16,713	27,012	32,588	16,447	32,077	26,148
Establishment, including direction and accounts ...	7,843	2,756	11,855	10,572	4,157	8,636	11,433	5,562	12,614	9,770
Tools and plant ...	3,524	4,155	2,105	2,868	1,806	13,457	1,693	5,363	3,901	5,417
Total ...	45,466	18,899	61,888	72,078	22,676	49,135	45,714	27,372	50,517	41,339
II.—Revenue management.										
Navigation establishment ...	3,143	3,026	3,007	3,195	3,030	2,833	2,955	4,332	3,700	4,140
Total Direct Charges ...	48,609	21,925	64,895	75,273	25,715	51,968	48,669	31,704	54,217	45,479
INDIRECT CHARGES ...	1,538	810	2,081	2,767	1,007	1,606	2,014	1,385	2,284	1,947
Total working expenses ...	50,147	22,735	66,976	78,040	26,722	53,574	50,683	33,089	56,501	47,426
Net revenue ...	2,308	30,759	(—)25,118	(—)22,943	15,230	(—)25,530	(—)13,768	20,301	2,695	11,099

65. The rainfall registered during the year at Contai station was 83·37 inches as compared with 78·26 inches in 1893-94.

The total maintenance charges amounting to Rs. 47,426 included Rs. 7,000 expended in repairing the locks during the closure. The net revenue of Rs. 11,099 compares favourably with the average of the previous nine years.

66. The floods of 1894-95 in the rivers crossed by the canal were not high ones and call for no remarks. The following statement shows the highest gauge readings of the rivers Hooghly, Haldi, and Russulpur:—

NAME OF RIVER.	Locality.	1893-94.		1894-95.		HIGHEST RECORD.		REMARKS.
		Date.	Reading.	Date.	Reading.	Date.	Reading.	
1	2	3	4	5	6	7	8	9
Hooghly	Gewankhali	26th May 1893	117'3	15th Sept. 1894	116'20	Cyclonic storm of 1874.	123'23	
Haldi	Terapakia	26th „ „	119'00	2nd „ „	116'80	* Not known	120'23	* Recorded on plan without date (Mr. Verannes').
Russulpur	Kalinagar	11th Sept. „	115'50	2nd „ „	114'70	26th August 1888	118'50	

67. The traffic statistics for the last ten years are given below:—

PARTICULARS.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9	10	11
Miles open ... No.	29	29	29	29	29	29	29	29	29	29
Toll collections ... Rs.	52,143	(a) 51,904	(a) 40,406	(a) 53,910	(a) 40,341	(a) 27,145	(a) 33,348	(a) 52,180	(a) 58,209	(a) 57,089
Rate of toll per mile „	1,798	1,734	1,338	1,700	1,200	821	1,128	1,607	2,007	1,968
Number of boats, including empty boats No.	19,316	17,542	13,503	10,481	13,785	10,215	15,332	16,084	14,716	15,133
Tonnage of boats ... Tons	163,535	149,747	124,903	165,635	124,605	91,114	133,575	163,239	1,78,649	193,346
Passengers carried ... No.	...	8,569	11,951	34,032	(b) 30,222	(b) 22,420	(b) 27,320	(b) 42,488	60,081	(b) 34,951
Estimated value of cargo, including rafts ... Rs.	32,74,901	31,48,826	26,13,351	33,01,123	27,29,720	20,78,972	34,97,725	52,56,550	42,37,488	4,55,289

(a) Inclusive of tolls, Rs. 1,603, Rs. 1,502, Rs. 4,590, Rs. 5,523, Rs. 3,346, Rs. 3,631, Rs. 5,568, Rs. 7,586, and Rs. 5,330 paid by the Calcutta Steam Navigation Company.

(b) Inclusive of passengers, 23,243, 17,554, 21,202, 31,792, 41,236, and 16,484 carried by the Company's steamers.

The tollage receipts amounted to Rs. 57,089, and show a decrease of Rs. 1,120 compared with the figures of 1893-94. But in that year the tolls were abnormally large on account of the pilgrim traffic attracted by the Car festival at Puri, which only occurs once in every 10 or 12 years. Comparing the returns of 1894-95 with those of 1892-93, the total tonnage shows an increase of 15 per cent., while the increase in the tollage is 10 per cent. The reason of the tollage not keeping pace with the increase in tonnage is probably to be found in the reduced rates of through-tickets from the Orissa Coast Canal to Gewankhali. The object of this reduction was, as explained in paragraph 125 following, to encourage boats to use the Hijili Tidal Canal in their journeys to Calcutta, instead of going down the Russulpore river and up the Hooghly. It is too early yet to pass judgment on the effects of the change.

68. The miscellaneous receipts for the last five years are shown below:—

1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
Rs.	Rs.	Rs.	Rs.	Rs.
899	567	1,282	987	1,436

RAINFALL.

FLOODS.

NAVIGATION.

MISCELLANEOUS RECEIPTS.

71. An opportunity was taken by the Executive Engineer during the closure of the canal to make some experiments on the loss due to leakage, evaporation, and percolation from the impounded water. From the results obtained and from the observations of the daily loss during January, February, and April, when the canal was working, the Superintending Engineer shows that the loss of water due to leakage through the lock gates is five times greater than the loss due to lockage alone. This heavy leakage is through the old iron lock-gates. The efforts already made to make them staunch have not been very successful, and it will be a matter for consideration whether they should not be replaced by wooden gates similar to those employed on the Coast Canal locks.

The Rasalpur river has deepened considerably, owing to the water brought into it by the recently remodelled Baliaghye drain. This is very encouraging, as also is the improvement in the Sadar khal effected by the dredging of the Kalaberia khal.

SONE CANALS.

72. The Capital, Interest and Revenue accounts of these canals are given below:—

I.—CAPITAL ACCOUNT.

HEADS OF ACCOUNT.				Outlay during 1894-95.	Outlay to end of 1894-95.
1				2	3
DIRECT CHARGES.				Rs.	Rs.
I.—Works	...	...	...	24,191	1,87,45,822
II.—Establishment	...	...	...	5,551	52,02,867
III.—Tools and plant	...	...	...	30,043	22,59,099
IV.—Suspense accounts	...	...	...	(—)20,905	1,08,448
Loss by exchange	...	...	...	.....	52,240
Total				38,880	2,63,68,476
V.—Less—Receipts on capital account	...	...	...	.....	3,74,445
Net total direct charges				38,880	2,59,94,031
INDIRECT CHARGES.					
Capitalization of abatement of land revenue	...	...	...	.....	37,911
Leave and pension allowances	...	...	...	777	8,77,657
Total indirect charges				777	9,15,568

No important works were carried out during the year chargeable to the Capital Account of the Sone Project. Good progress was made on the Mohunpur drainage scheme which has for its object, the draining of the land adjacent to the Jamrore Subdivisional head-quarters, and some permanent outlets were constructed on the Chowsa Branch Canal. These works were charged to Minor Works and Navigation. Under Major Works, the work of the year was confined to some outlets on distributaries and some small syphons.

II.—INTEREST ACCOUNT.

		Rs.
Interest charges to end of 1893-94	...	1,86,53,306
Ditto for 1894-95	...	10,38,984
Total	...	1,96,92,290

INTEREST
ACCOUNT.

REVENUE
ACCOUNT.

III.—REVENUE ACCOUNT (ACTUALS).

PARTICULARS.	EXPENDITURE—		PARTICULARS.	RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
DIRECT CHARGES.	Rs.	Rs.		Rs.	Rs.
I.—Works, maintenance and repairs	5,22,766	4,90,471	Water-rates ...	8,42,309	7,43,243
II.—Revenue management ...	1,64,123	1,61,251	Navigation ...	60,025	58,898
			Miscellaneous ...	29,578	35,620
Total direct charges	6,86,889	6,51,722	Total ...	9,31,912	8,37,761
Indirect Charges ...	54,087	55,017	Less—Refunds of revenue.	6,237	2,927
Total Working Expenses	7,40,976	7,06,739			
Profit, actual ...	1,84,699	1,28,095			
Total ...	9,25,675	8,34,834	Total Receipts ...	9,25,675	8,34,834

NOTE.—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph 74 following.

EARNINGS.

73. The following statement compares the "Earnings" with the actual outlay for the years 1893-94 and 1894-95:—

			1893-94.	1894-95.
Earnings—			Rs.	Rs.
Irrigation	...	...	7,39,959	6,56,332
Navigation	...	...	59,905	58,850
Miscellaneous	...	...	29,578	35,620
Total	...	...	8,29,442	7,50,802
Deduct refunds of revenue	...	...	6,237	2,927
Net earnings	...	...	8,23,205	7,47,875
Outlay	...	...	7,40,976	7,06,739
Earned profit	...	...	82,229	41,136

The irrigation earnings are the net assessments for the irrigation of the year, after deducting refunds, or in other words, the water-rate value of the irrigation done during the year. A portion of these assessments, viz., those for rabi irrigation are not legally payable until the 5th April. Consequently the total irrigation earnings during the year will not be the same as the total amount of water-rates falling due during the year. Thus the Rs. 6,56,332 shown above as the irrigation earnings of 1894-95, includes a sum of Rs. 16,636 for rabi irrigated during the year, which was not payable until 1895-96, and excludes a sum of Rs. 45,866 which fell due during the year for rabi irrigation of 1893-94. The navigation earnings are the assessed

tollage for the year, together with the actual miscellaneous receipts charged to navigation. The miscellaneous earnings are perforce the actual realisations under that head.

74. The following is a statement of the revenue account and working expenses of the canals for ten years:—

FINANCIAL
RESULTS.

	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9	10	11
RECEIPTS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Water-rates	9,78,323	8,26,461	5,19,586	7,59,556	8,16,304	6,44,718	8,11,750	9,68,070	8,42,309	7,43,243
Navigation	46,243	54,254	55,904	57,829	57,759	65,629	66,517	50,089	60,025	58,898
Miscellaneous	38,080	37,714	28,459	26,504	23,342	26,128	31,827	29,214	29,578	35,620
Total ...	10,62,646	9,18,429	6,03,949	8,43,889	8,97,495	7,36,475	9,10,094	10,56,373	9,31,912	8,37,761
Less—Refunds of revenue	10,657	15,737	15,331	12,611	16,520	7,365	4,020	3,792	6,237	2,927
Total Receipts ...	10,51,989	9,02,692	5,88,618	8,31,278	8,80,975	7,29,170	9,06,074	10,52,581	9,25,675	8,34,834
WORKING EXPENSES.										
DIRECT CHARGES.										
<i>I.—Works, maintenance and repairs.</i>										
Works (extensions and improvements) ...	...	...	5,532	10,426	4,712	3,263	3,812	6,541	7,419	10,972
Repairs, including compensation	2,83,315	3,08,765	3,08,448	3,28,182	2,92,992	2,72,831	2,59,832	2,80,679	2,65,928	2,20,227
Establishment, including direction and accounts	65,163	71,066	2,10,227	1,97,677	1,82,667	1,88,895	1,89,196	2,08,810	2,22,213	2,31,729
Tools and plant	32,451	27,698	28,221	33,920	33,460	28,527	28,843	28,031	27,206	27,543
Total ...	3,80,929	4,07,529	5,52,428	5,70,205	5,13,831	4,93,516	4,81,683	5,23,961	5,22,766	4,90,471
<i>II.—Revenue management.</i>										
Irrigation establishment	1,46,028	1,43,060	1,35,243	1,58,249	1,52,823	1,45,528	1,52,113	1,59,300	1,49,732	1,46,960
Navigation ditto ...	14,756	14,535	14,308	14,165	14,305	14,242	14,264	14,430	14,391	14,291
Total ...	1,60,784	1,58,195	1,49,551	1,72,414	1,67,128	1,59,770	1,66,377	1,73,730	1,64,123	1,61,251
Total—direct charges ...	5,41,713	5,65,724	7,01,979	7,42,619	6,80,959	6,53,286	6,48,060	6,97,691	6,86,889	6,51,722
INDIRECT CHARGES.										
Capitalization of abatement of land revenue...	...	...	...	...	...	...	...	...	...	...
Leave and pension allowances	31,632	32,097	50,369	51,813	48,971	48,813	49,780	53,556	54,087	55,017
Total—indirect charges...	31,632	32,097	50,369	51,813	48,971	48,813	49,780	53,556	54,087	55,017
Total—working expenses	5,73,345	5,97,821	7,52,348	7,94,432	7,29,930	7,02,099	6,97,840	7,51,247	7,40,976	7,06,739
Net revenue ...	4,78,644	3,04,871	(—)1,63,730	36,846	1,51,045	27,071	2,08,234	3,01,334	1,84,699	1,28,095

The decrease in the irrigation receipts was due to the seasons being very favourable for the crops, and consequently unfavourable to irrigation. The decrease in the working expenses is satisfactory. It was due in a great measure to the economy exercised in silt clearing. The increase under Extensions and Improvements was chiefly on account of the construction of a surface supply inlet at Dehri for the purpose of testing certain theories of Mr. Buckley concerning the action of the head sluice in scouring heavy sand from the bed of the river. The Eastern Main Canal and Patna Canal were closed from the 21st April to the 19th June, and the Western Main Canal from 14th to the 25th May, for repairs.

The increase of $290\frac{3}{4}$ miles to the length of village channels is very satisfactory, as is the continued increase in the number of permanent outlets.

77. The following is a statement of rainfall in the vicinity of the Sone RAINFALL.
Canals for the last five years:—

		AVERAGE OF 22 STATIONS.				
		1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1		2	3	4	5	6
		Inches.	Inches.	Inches.	Inches.	Inches.
Kharif season	{ August ...	14.47	9.11	15.47	7.52	14.81
	{ September...	6.58	4.09	4.27	10.30	9.50
	{ October ...	0.99	1.17	0.33	4.42	8.06
	Total ...	22.04	14.37	20.07	22.24	32.37
Rabi season	{ November...	.....	.....	0.03	0.32	2.08
	{ December ..	0.01	.....	.....	.....	0.03
	{ January ...	1.69	0.13	0.61	0.09	0.56
	{ February ...	0.39	1.03	2.07	0.93	0.61
	Total ...	2.09	1.16	2.71	1.34	3.28
Whole year ...		52.86	29.12	38.36	47.66	58.22

The Superintending Engineer writes—

"The rainfall in the kharif season was extremely heavy, being more than 50 per cent. in excess of the average of the previous eight years. In the Buxar Division it is believed that the rainfall was the largest on record since the canals were opened."

The "Hathia Naichhatra," *i.e.*, the period between the 25th September and the 8th or 9th October, when in Bihar it is generally considered necessary to water the rice crop, was one of abnormally favourable rainfall in two consecutive years, "a fact which has greatly influenced the area leased under long term leases."

Regarding the rainfall in the rabi season the Superintending Engineer says—

"The copious rainfall in October, together with the heavy rainfall of the rabi season itself—which was more than double the average—so far moistened the soil that irrigation in most cases was entirely unnecessary for the rabi crop."

78. There was no high flood in the Sone during the year. The highest FLOODS.
level at the Dehri weir was practically the same as the highest level in 1893-94, as is shown in the statement below. The R. L. of the crest of the weir is 334.00:—

RIVER SONE.

LOCALITY.	1894-95—18th August 1894.		1893-94—25th September 1893.		Highest known 1876-77—7th July 1876.	
	Above weir.	Below weir.	Above weir.	Below weir.	Above weir.	Below weir.
1	2	3	4	5	6	7
	R. L.	R. L.	R. L.	R. L.	R. L.	R. L.
Dehri ...	338.35	336.70	338.30	336.50	342.10	341.00
Barun ...	339.50	338.50	340.00	337.70	343.50	342.70

The highest flood readings recorded in this circle for the river Ganges in 1894-95 were—

RIVER GANGES.

LOCALITY.	Date.	Reading.	HIGHEST KNOWN SINCE 1875.	
			Date.	Reading.
1	2	3	4	5
		R. L.		R. L.
Buxar	22nd August 1894 ...	199.05	6th August 1875 ...	200.71
Digah	23rd " " ...	167.63	14th " 1879 ..	169.20
Hajipur, confluence of rivers Ganges and Gandak ...	24th " " ...	164.50	14th " " ...	166.20

The Executive Engineer of the Buxar Division remarks that the flood in the Ganges was remarkable for its duration. He states that it was above 197.00 from the 18th to the 28th August.

79. The irrigation for ten years, together with the rainfall over 16 stations actually situated on the canal irrigated area, is shown below:—

YEAR.	Kharif.	Rabi.	Perennial. hot weather.	Total.	Rainfall.
1	2	3	4	5	6
	Acres.	Acres.	Acres.	Acres.	Inches.
1885-86 ...	217,072	87,936	27,562	332,570	44.52
1886-87 ...	177,510	60,639	30,055	268,204	58.84
1887-88 ...	220,428	69,945	25,007	315,380	40.18
1888-89 ...	238,895	100,142	16,872	355,909	45.43
1889-90 ...	230,741	55,613	18,928	305,282	49.65
1890-91 ...	211,726	51,318	17,970	281,014	52.23
1891-92 ...	248,819	210,907	14,997	474,723	26.82
1892-93 ...	274,839	126,195	9,727*	410,761	37.69
1893-94 ...	280,528	66,458	19,790*	366,776	46.62
1894-95 ...	258,361	41,664	17,109*	317,134	59.65

* These figures are for hot weather crops only. Those of the years previous to 1892-93 represent both sugarcane and hot weather crops.

The total area irrigated was 49,642 acres less than that in the previous year.

80. The following statement gives the areas of each crop irrigated under annual and five-year leases from 1889-90 to 1891-92, and under season and long-term (seven and three-year) leases in 1892-93, 1893-94 and 1894-95 under the new rules:—

CROP.		1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1		2	3	4	5	6	7
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Kharif	{ Five-year leases...	174,780	189,227	200,716	Long-term leases	235,637	254,515
	{ Annual leases ...	41,917	22,499	48,103	Season leases	39,202	26,013
	Total ...	216,697	211,726	248,819		274,839	280,528
Rabi	{ Five-year leases...	31,128	20,761	20,274	Long-term leases	36,329	37,231
	{ Annual leases ...	20,336	20,632	177,308	Season leases	89,866	29,227
	Total ...	51,464	41,393	197,582		126,195	66,458
Sugarcane	{ Five-year leases...	18,360	13,568	13,801			
	{ Annual leases ...	5,004	4,402	1,196			
	Total ...	23,364	17,970	14,997	.....	...	...
Hot-weather		13,757	9,925	13,325	Season leases	9,727	19,790
GRAND TOTAL		305,282	281,014	474,723		410,761	366,776
Total five-year leases		224,268	223,556	234,791	Total long-term leases	271,966	291,746
" annual leases		81,014	57,458	239,932	" season leases	138,795	75,030
							263,990
							53,144

* Under the new rules for the Sone Canals there are no separate leases for sugarcane. They are included in each season lease as explained above.

The total areas irrigated under each form of lease are abstracted as follows for convenient reference:—

	1892-93.	1893-94.	1894-95.
	Acres.	Acres.	Acres.
Area irrigated under long-term leases	271,966	291,746	263,990
" " " season leases	129,356	74,292	51,913
" " " by sale by volume	5,732	57	55
" " " without permit	3,707	681	1,176
Total	410,761	366,776	317,134

The very large falling off in the rabi irrigation was entirely on account of the heavy rainfall in the rabi season following the abnormal rain fall in October. The Superintending Engineer points out that the area irrigated in the rabi season was the smallest since 1882-83 when only 25,935 acres were irrigated. That year was distinguished by weather conditions similar to those of 1894-95, i.e., there was heavy rain in the rabi season following a very wet October.

Regarding the falling off in the long-term leases the Superintending Engineer writes—

"The area of leases which lapsed on the 31st March 1894 was unusually large. These leases were five-year ones, which had been made in 1889-90: in the two years previous to that one, and notably the year 1888-89, there had been deficient rainfall in the "Hathia:" indeed in 1888-89 there was hardly any rainfall after the 11th of September until the end of the kharif season. These two bad years produced a large demand for long-term lease in 1889-90, which have expired, rather unfortunately in some respects, after a year of remarkably copious rainfall in the critical period of the "Hathia," and the people have declined to renew many of the leases which have expired."

The Superintending Engineer writes—

"The area under long-term leases has increased steadily from 1888 up to 1893-94. This increase has now met with a check which will probably continue during 1895-96, for there was again most copious rainfall in October 1894. It must, however, be noticed that there is no check in the Eastern Sone Division, where the increase in long-term leases still continues."

81. The assessments for the unauthorized use of water and for wastage were slightly in excess of those of the previous year. The figures for the last five years are given below:—

	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
	Rs.	Rs.	Rs.	Rs.	Rs.
Unauthorized use of water...	2,734	13,861	14,549	4,760	6,910
Wastage of water ...	256	314	105	615	682

UNAUTHORIZED IRRIGATION.

Under the rules now in force, irrigation effected without permit in the kharif season cannot be assessed if the water used is drawn from lands which are under lease.

82. The following statement shows the areas actually irrigated in each Division since the year 1892-93, when the new rules came into force:—

IRRIGATION IN EACH DIVISION (UNDER THE NEW RULES).

EASTERN SONE DIVISION.						ARRAH DIVISION.				BUXAR DIVISION.					TOTAL FOR ALL DIVISIONS.					
YR.	Long-term leases.	SEASON LEASES.			Total.	Long-term leases.	SEASON LEASES.			Total.	Long-term leases.	SEASON LEASES.			Total.	Long-term leases.	SEASON LEASES.			Total.
		Kharif.	Rabi.	Hot-weather.			Kharif.	Rabi.	Hot-weather.			Kharif.	Rabi.	Hot-weather.			Kharif.	Rabi.	Hot-weather.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.	Acs.
82-83	64,801	7,873	6,987	...	79,661	124,814	14,835	35,996	4,604	180,309	82,351	16,494	46,883	5,063	150,791	271,966	39,202	89,866	9,727	410,761
83-84	67,894	9,123	4,880	2,531	84,428	133,804	7,987	18,064	14,219	174,164	89,958	8,903	6,283	3,040	108,184	291,746	26,013	29,227	19,790	366,776
84-85	68,657	7,359	2,372	2,469	80,857	129,308	7,760	8,318	13,058	158,444	66,025	9,486	740	1,592	77,833	263,990	24,605	11,430	17,109	317,134

83. The following table gives the duties obtained during the kharif and rabi seasons on the several canals for the last three years. But the year under review was one of such abundant rainfall that the figures are of little value, and the Superintending Engineer points out that the high duty of 146·22 acres, in the Buxar Division, during the kharif season, really means that a great portion of the area under lease took hardly any water at all.

DUTY OF WATER.

Kharif.

1	1894-95.		1893-94.		1892-93.	
	Acres.	Duty.	Acres.	Duty.	Acres.	Duty.
	2	3	4	5	6	7
Eastern Main Series	71,180	73·83	72,024	69·52	68,284	56·43
Arrah Canal System	119,625	91·04	124,072	82·82	122,471	70·46
Buxar Canal System	67,556	146·22	84,432	96·71	84,084	74·87
Western Main Series	187,181	102·79	208,504	86·80	206,555	71·52
Sone Canals	258,361	92·77	280,528	81·59	274,839	67·06

Rabi.

1	1894-95.		1893-94.		1892-93.	
	Acres.	Duty.	Acres.	Duty.	Acres.	Duty.
	2	3	4	5	6	7
Eastern Main Series ...	7,008	15.56	9,873	51.96	11,377	45.51
Arrah Canal System ...	25,161	68.51	35,873	71.74	53,174	76.73
Buxar Canal System ...	8,695	84.41	20,712	69.73	61,644	96.77
Western Main Series ...	34,456	71.93	56,585	70.99	114,818	86.33
Sone Canals ...	41,664	44.23	66,548	67.33	126,195	79.87

Some interesting observations were recorded during the year by the Executive Engineer of the Arrah Division on the loss of water in distributaries in the kharif season, and on the duty of water in hot-weather irrigation. It was found that the loss per cent. per mile of channel varied from 0.40 to 2.05, though on the Dumraon Branch Canal, when the average discharge was 173 cubic feet per second, the percentage of loss per mile was only 0.18. The experiments on the duty of water in the hot weather, *i.e.*, from the 25th March to the 25th June, showed it to be about a third less than that obtained in the kharif season, *viz.*, from 25th June to 25th October, and the depth of water required nearly six inches against four in the kharif season.

CROP EXPERI-
MENTS.

84. *Crop experiments.*—The results of the experiments made during the year to determine the yield of rice and wheat crops irrigated from the canals are given in the following tables:—

TABLE I.

Result of experiments on "good" rice crops irrigated with canal water for the year 1894-95.

DIVISION.	Number of experiments.	AVERAGE YIELD PER ACRE WEIGHED DRY.			
		Grain.		Straw.	
		Maunds.	Seers.	Maunds.	Seers.
1	2	3	4	5	6
Eastern Sone ...	35	33	28	75	28
Arrah ...	51	31	30	76	17
Buxar ...	39	30	21	73	28
Sone Circle average ...	125	31	37	75	14

N.B.—A good crop means a crop decidedly above the average crop in the village in which it was taken.

TABLE II.

Result of experiments on "average" rice crops irrigated with canal water.

Eastern Sone ...	22	25	1	53	10
Arrah ...	50	24	8	65	9
Buxar ...	56	23	28	51	32
Sone Circle average ...	128	24	5	57	12

N.B.—An "average" crop means a crop that was considered as an average crop in any village in which an experiment was made.

TABLE III.

Result of experiments on "good" wheat crops irrigated with canal water for the year 1894-95.

DIVISION.	Staple.	Number of experiments made.	IRRIGATED WITH CANAL WATER.			
			AVERAGE YIELD PER ACRE.			
			Grain.		Straw.	
			Maunds.	Seers.	Maunds.	Seers.
1	2	3	4	5	6	7
Eastern Sone ...	Wheat ...	13	11	25	15	31
Arrah ...	" ...	20	14	16	19	20
Buxar ...	" ...	18	11	12	14	...
Sone Circle average ...	...	51	12	24	16	25

TABLE IV.

Result of experiments on "average" wheat crops irrigated with canal water for the year 1894-95.

DIVISION.	Staple.	Number of experiments made.	IRRIGATED WITH CANAL WATER.			
			AVERAGE YIELD PER ACRE.			
			Grain.		Straw.	
			Maunds.	Seers.	Maunds.	Seers.
1	2	3	4	5	6	7
Eastern Sone ...	Wheat ...	7	8	8	13	26
Arrah ...	" ...	35	9	...	15	1
Buxar ...	" ...	20	8	9	12	6
Sone Circle average ...	...	62	8	27	13	38

85. The demands, collections, and balances of water-rates for the last five years are shown below :—

YEAR.	Amount outstanding at commencement of year.	Amount falling due for recovery during the year.	Total for recovery.	Cash realisation.	Remitted or written off.	Balance at the end of the year.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1890-91 ...	2,81,782	6,29,124	9,10,905	6,44,718	21,460	2,44,728
1891-92 ...	2,44,728	6,93,685	9,38,413	8,11,750	15,220	1,11,443
1892-93 ...	1,11,443	9,50,733	10,62,176	9,59,472	14,914	87,790
1893-94 ...	87,790	8,53,161	9,40,951	8,31,261	4,832	1,01,858
1894-95 ...	1,01,858	6,86,905	7,88,763	7,43,863	4,091	40,809

As explained in paragraph 73, the assessments of the year will not correspond with the amount falling due in the year, on account of the rabi irrigation assessments not being legally payable until the 5th April. In other words the amount of assessments for rabi irrigated in one year does not fall due until the following year. This accounts for the difference between the Examiner's figures and those shown in the preceding statement. The Examiner regards

DEMANDS,
COLLECTIONS
AND BALANCES.

the assessments received during the year as being payable during the year, and his balance outstanding is based on those assessments. But a portion of the amount so shown is not in reality an outstanding balance at all, but is the amount falling due in the following year. Thus the Examiner gives the amount outstanding at the end of the year as Rs. 57,443 instead of Rs. 40,809 as shown above. The amount of Rs. 6,86,905 shown in this statement as falling due during the year, is arrived at as follows:—

	Rs.	Rs.
Examiner's "assessments of the year" ...	.....	6,57,054
Add—The assessments of the rabi of 1893-94 which were "received" in that year, but legally due in 1894-95 ...	45,866	} Add 29,230
Deduct—The assessments of the rabi of 1894-95 which were "received" in that year, but legally due in 1895-96 ...	16,636	
		6,86,284
Deduct—Certain excess recoveries which are treated as "amounts falling due during the year" (see paragraph 29 of Deputy Collector's Revenue Report) ...	...	621
Amount falling due during the year ...	.....	6,86,905

ARREARS.

86. In the following statement the Deputy Collector shows the extent to which the arrears as well as current demand have been worked off:—

	Demand of 1894-95 consisting of—	Collected or remitted in 1894-95.	Percentage of demand adjusted.	Unadjusted balance at close of year.
1	2	3	4	5
	Rs.	Rs.		Rs.
Arrears of 1892-93 ...	3,980	3,141	79.3	819
Do. of 1893-94 ...	97,897	89,077	90.9	8,820
Total arrears outstanding on 1st April 1894 ...	1,01,857	92,218	90.5	9,639
Current demand for 1894-95 ...	6,86,905	6,55,737	95.4	31,168
Total ...	7,88,762	7,47,955	94.8	40,807

These figures are highly satisfactory. Not only are the arrears lower than they have ever been before on the Sone Canals, but the percentage of collection is higher than in any previous year.

COLLECTIONS.

87. The following statement gives the collections in each district:—

DISTRICT.	DEMAND.			ADJUSTMENTS.				Balance on 31st March 1895.	Percentage, column 8 on column 4.
	Arrears on 31st March 1894.	Current demand for 1894-95.	Total.	Collection.	Remission made by canal officers.	Written off as irrecoverable.	Total.		
1	2	3	4	5	6	7	8	9	10
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Shahabad ...	75,554	5,18,489	5,94,043	5,58,230	1,226	2,464	5,61,920	33,123	94.6
Patna ...	19,596	77,478	97,074	92,336	30	194	92,560	4,514	95.3
Gaya ...	6,707	90,938	97,645	93,297	171	7	93,475	4,170	95.7
Total ...	1,01,857	6,86,905	7,88,762	7,43,863	1,427	2,665	7,47,955	40,807	94.8

Besides the collections of Rs. 7,43,863 shown above, a further sum of Rs. 1,828 was credited to water-rate accounts as below:—

	Rs.
Surplus or excess recoveries ...	(—)620
Process fees in certificate cases ...	2,432
Miscellaneous ...	16
Total ...	1,828

88. The sums remitted in 1893-94 and 1894-95 according to the figures REMISSIONS, given by the Examiner of Accounts, were —

	1893-94.	1894-95.
	Rs.	Rs.
By Canal officers	1,606	1,237
By Civil do.	3,226	2,854
Total	4,832	4,091

According to the figures supplied by the Superintending Engineer the remissions were—

	1893-94.	1894-95.
	Rs.	Rs.
Written off by Civil officers as irrecoverable ...	3,226	2,665
Remissions granted by Executive Engineers ...	2,180	2,640
Extraordinary remissions by Superintending Engineers ...	...	189
Remitted on revised and cancelled khatianis ...	15,251	8,370
	20,657	13,864

The continued reduction in the amounts written off as irrecoverable is very satisfactory. The Superintending Engineer thinks that the system of embezzling money under the guise of its being irrecoverable, of which a notable case has lately been brought to light, was formerly more common than has been supposed, and that the reduction of fraud brought about by increased vigilance and supervision is largely accountable for the decrease in the amounts shown as irrecoverable.

Of the Rs. 2,640 remitted by Executive Engineers, Rs. 1,403 were in reality refunds on account of amounts which had been recovered by the Deputy Collector before the remission statements had been received by him.

The following table explains the remissions made by Executive Engineers:—

Class.	Causes.	Eastern Sone Division.	Arrah Division.	Buxar Division.	Total 1894-95.	Total 1893-94.
1	2	3	4	5	6	7
		Rs.	Rs.	Rs.	Rs.	Rs.
a	Charged by mistake for land cultivated by others ... ..	...	...	...	...	7
b	Excess measurement or errors in calculation	49	131	108	288	449
c	Lift charged as flow	5	3	...	8	43
d	Irrigation not denied, but remitted as not chargeable under the Act ...	...	12	61	73	381
e	Land not having been irrigated at all	1	35	967	1,003	610
f	Injury to crop due to insufficient supply ... ..	...	206	...	206	208
g	Land thrown temporarily out of cultivation (applicable to long leases only)	50	...	88	138	100
h	Failure of crop originally sown, Rule 82	8	58	654	720	174
i	Land appropriated for other purposes than cultivation	2	3	5	10	6
j	Double assessment, as when land assessed on a season lease is subsequently included in a long lease in the same year	126	15	53	194	202
	Total	241	463	1,936	2,640	2,180

The totals for the last five years are given below:—

1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
Rs.	Rs.	Rs.	Rs.	Rs.
6,555	3,304	4,620	2,180	2,610

The percentage of remissions on the gross demand was as follows in each Division:—

		Percentage of remissions to gross demand.	
		1893-94.	1894-95.
Eastern Sone Division	...	0.13	0.10
Arrah ditto	...	0.16	0.08
Buxar ditto	...	0.19	0.31

89. The following statement shows the expenditure on the revenue establishments for the last five years:—

REVENUE
ESTABLISH-
MENT.

PARTICULARS.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
<i>Establishment under Collector.</i>	Rs.	Rs.	Rs.	Rs.	Rs.
1. Permanent establishment, including travelling allowances.	31,253	40,997	58,538	55,308	54,311
2. Temporary establishment	687	4,752	3,070	2,903	3,217
3. Contingencies	2,398	2,784	2,663	4,274	5,596
4. Fees to tahsildars or establishment employed in lieu thereof.	24,499	16,868	2,580*	5,166	8,309
Fees to patwaris	3,988	2,205	1,152	368	114
<i>Establishment under Superintending and Executive Engineers.</i>					
Permanent and temporary establishment, including travelling allowances.	48,105	50,228	52,187	49,930	45,335
Contingencies	3,500	5,443	4,768	3,426	3,96
Water-regulation establishment	2,235	2,286	2,310	2,277	2,26
Headmen's fees	28,861	26,550	32,032	26,080	23,86
Total	1,45,528	1,52,113	1,59,300	1,49,732	1,46,960
Collections of water-rates and miscellaneous revenue by the Canal Revenue Department.	6,47,839	8,15,858	9,71,202	8,45,177	7,45,691
Percentage	22.3	18.66	16.4	17.7	19.7

* Lambardar's fees and contractor's percentage.

The decreased expenditure is due to the smaller irrigation of the year as compared with that of the previous year, and to the reduced collections.

COST PER
ACRE.

90. The total cost of the revenue establishment under each Executive Engineer per acre irrigated, is shown below:—

DIVISION.	1894-95.			1893-94.
	Revenue* establishment.	Area irrigated.	Cost per acre.	Cost per acre.
1	2	3	4	5
	Rs.	Acres.	A. P.	A. P.
Eastern Sone ...	17,487	80,857	3 5	3 5
Arrah ...	34,619	158,444	3 6	3 3
Buxar ...	23,308	77,833	4 9	4 1
Total Sone Canals	75,414	317,134	3 9	3 6

* Includes proportion of water regulation establishment employed on the head works.

91. The following statement gives particulars of the disposal of objections to assessments. Claims for ordinary remission are distinguished from other complaints, such as petitions alleging damage from the canals, complaints against individuals, and other miscellaneous claims. The totals are compared with those of the two previous years.

OBJECTIONS TO ASSESSMENTS.

DIVISION.	CLAIMS FOR ORDINARY REMISSION.			OTHER COMPLAINTS.			Total complaints received during the year, excluding those pending from previous year.	Pending.
	Received during the year and pending from previous year.	Disposed of.		Pending.	Received during the year and pending from last year.	Disposed of.	Pending.	
1	2	3	4	5	6	7	8	9
	No.	No.	No.	No.	No.	No.	No.	No.
Eastern Sone ...	314	121	182	11	25	20	5	329
Arrah ...	1,246	319	843	43	30	29	1	1,205
Buxar ...	1,081	426	641	14	69	67	2	1,023
Total ...	2,641	866	1,708	67	124	116	8	2,557

The Superintending Engineer writes:—

"The large reduction in complaints is probably due to the bumper season; every one was well off and satisfied. About one-third of the claims for remission were admitted to be good: this is the same proportion as in previous years. Out of the 2,690 cases dealt with during the year, there were 27 only in which the complainants appealed to the Collector of the district against the orders of the Canal officer: about one-third of the appeals were allowed and two-thirds were rejected."

92. The following statement shows the number of appeals to the Collectors of districts against Executive Engineers' decisions, and how they were disposed of:—

APPEALS

DIVISION.	NUMBER OF APPEALS—		Appeals allowed.	Appeals discharged.	Pending.
	Pending from last year.	Instituted during the year.			
1	2	3	4	5	6
	No.	No.	No.	No.	No.
Eastern Sone ...	...	...	...	...	...
Arrah ...	2	11	1	9	3
Buxar ...	1	16	5	9	3
Total ...	3	27	6	18	...

93. Twenty-eight cases were tried by Executive Engineers vested with Magisterial powers under the Act. Forty-eight persons accused were convicted and twenty-one discharged. The fines imposed amounted to Rs. 475, and the number of days' imprisonment aggregated sixty-one.

CASES UNDER ACT III (B.C.) OF 1876.

94. The Special Deputy Collector in charge of the collections continues to deal with the certificates required in realizing water-rates.

CERTIFICATE.

COMPARISON OF TRAFFIC.

TRAFFIC.

	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
Number of miles open ... No.	218½	218½	218½	218½	218½
Toll collections ... Rs.	56,704	57,292	50,023	50,430	49,300
Collections per mile ... "	259	262	229	230	225
Boats, including empties ... No.	8,644	8,645	6,710	6,666	6,119
Tonnage of boats ... Tons.	114,996	129,147	97,841	98,551	85,573
Estimated value of cargo, including rafts ... Rs.	65,25,714	70,06,595	57,32,365	61,19,288	49,20,434

96. The contract for the transport service was again given to Messrs. Radford & Co., the rates being increased to Rs. 750 per month for the hire of steamers and Rs. 1,250 for compounded tollage. The corresponding amounts of the former contract were Rs. 600 and Rs. 500, respectively. The ordinary repairs of the steamers, which belong to Government, are executed by the lessees.

TRANSPORT SERVICE.

The following table shows the extent of the steamer traffic:—

PARTICULARS.	Patna Canal.	Arrah Canal.	Buxar Canal.	Total.	Total for 1893-94.
1	2	3	4	5	6
Passengers carried { Up ... No.	4,848	12,742	7,924	25,514	26,239
Down ... "	4,617	12,966	7,983	25,566	25,826
Cargo carried { Up ... Tons.	1,177	361	372	1,910	1,519
Down ... "	955	558	536	2,049	2,114

On the Patna Canal the steamer makes one trip in a week each way. On the Arrah and Buxar Canals there is a service twice a week. Rs. 7,800 was realized during the year for the hire of steamers, and Rs. 1,750 for the hire of accommodation boats and mud punts. The four cargo boats belonging to Government which used to contribute to these receipts were sold in 1893.

97. The details of the miscellaneous receipts for the last five years are given below:—

MISCELLANEOUS RECEIPTS.

PARTICULARS.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Sale of water	393	1,056	805	739	867
Plantations	355	995	852	1,164	1,671
Other canal produce	1,815	742	967	1,651	2,793
Water-power	1,158	1,049	1,188	978	1,715
Rent of buildings	8,164	8,397	8,807	8,921	8,267
Fines	40	6	362	20	456
Miscellaneous { Rent of lands	8,114	9,920	9,241	9,014	11,773
Fisheries	431	489	523	67	582
Cost of process	2,937	3,79	2,955	2,528	2,432
Sale of old materials	121	82	85	139	11
Other items	2,610	5,323	3,529	3,735	4,054
Total	26,128	31,827	29,314	29,578	35,020

101. The following table gives particulars of dredging during the year, compared with the results of the two previous years:—

SILT-CLEARING
AND
DREDGING.

CANALS.	1892-93.			1893-94.			1894-95.		
	Quantity dredged.	Cost, including removal over spoil bank, or discharge into river.	Rate per 1,000 cubic feet.	Quantity dredged.	Cost, including removal over spoil bank, or discharge into river.	Rate per 1,000 cubic feet.	Quantity dredged.	Cost, including removal over spoil bank, or discharge into river.	Rate per 1,000 cubic feet.
1	2	3	4	5	6	7	8	9	10
	C. ft.	Rs.	Rs. A. P.	C. ft.	Rs.	Rs. A. P.	C. ft.	Rs.	Rs. A. P.
Eastern Main and Patna ...	1,842,959	10,783	5 13 6	2,180,403	12,922	5 14 9	1,257,589	6,644	5 4 6
Western Main (1—9 miles) ...	6,725,424	40,368	6 0 0	6,103,980	40,045	6 8 11	4,272,874	26,211	6 2 1
River Sone ...	3,376,392	7,309	2 2 7	2,623,947	5,699	2 2 7	3,704,946	6,533	1 12 2
Head Lock ...	123,939	506	4 1 2	67,112	374	5 9 2	65,195	246	3 12 6
Total ...	12,068,714	58,966	4 8 4	8,795,039	46,118	5 3 10	8,043,015	32,990	4 1 7

The Superintending Engineer gives the following explanation of the decrease in the amount dredged from the Eastern Main and Patna Canals:—

“The decrease in the quantity of dredging was partly due to a small decrease in deposit, but mainly to the fact that it was decided not to dredge as much silt as usual from the head of the canal, but to reduce the bed width of the canal to 100 feet in the first $\frac{3}{8}$ th mile, where it is 160 feet base nominally. The dredging at the head of the canal was stopped on the 28th October, a much earlier date than usual.”

There was a large increase in the amount dredged from the bed of the Sone river in order to keep a channel open from Dehri to Barun. It is due to the river silting up more and more every year. Surveys are now being made with the object of finding a channel, not direct across, which may be opened out at a cheaper cost.

In the Arrah division, the amount dredged from the lock channels was only 99,345 cubic feet, at a cost of Rs. 483, against 561,402 cubic feet, costing Rs. 2,625 in the previous year. The reduction was effected by cutting the channels to the smallest width sufficient for the traffic and not to the full width as in previous years. From the Buxar Canal, 452,758 cubic feet were excavated.

The rates given above include the cost of lifting the silt into barges and of carrying it either over the spoil banks or into the river.

102. The cost of lifting the silt on to the barges, or dredging proper was as shown below.—

COST OF
DREDGING
PROPER.

	1892-93.			1893-94.			1894-95.		
	Quantity dredged.	Cost of dredging.	Rate per 1,000 cubic feet.	Quantity dredged.	Cost of dredging.	Rate per 1,000 cubic feet.	Quantity dredged.	Cost of dredging.	Rate per 1,000 cubic feet.
1	2	3	4	5	6	7	8	9	10
	C. ft.	Rs.	Rs. A. P.	C. ft.	Rs.	Rs. A. P.	C. ft.	Rs.	Rs. A. P.
Eastern Main and Patna Canals	1,842,959	2,605	1 6 7	2,180,403	3,117	1 6 10	1,257,589	2,260	1 12 9
Western Main Canal ...	6,725,424	12,483	1 13 8	6,103,980	12,335	1 13 2	4,272,874	8,055	1 12 10
River Sone ...	3,376,392	6,727	1 15 10	2,623,947	5,100	1 15 1	3,704,946	6,265	1 11 1
Head Lock ...	123,939	346	3 5 5	67,112	222	3 5 0	65,195	198	3 0 8
Total ...	12,038,714	22,161	2 2 4	10,975,412	20,774	2 2 0	9,300,601	18,778	2 1 4

The total cost per 1000 cubic feet of removing the silt was Rs. 5-4-6 as compared with Rs. 5-14-9 in 1893-94.

REPAIRS TO
DREDGERS.

103. The expenditure on repairs to dredgers is shown below for the last three years.

	1892-93.	1893-94.	1894-95.
1	2	3	4
	Rs.	Rs.	Rs.
12 Fouracres' dredgers	6,752	6,467	6,036
2 Bruce's ditto	546	627	362
2 English ditto	3,081	3,575	2,724
Mud punts ...	3,076	3,075	2,508
Total ...	13,455	13,744	11,630

COST OF
"LIFTING"
SILT.

104. The real cost of "lifting" the silt on to mud punts in 1894-95 was :—

DREDGERS.	Working expenses per 1,000 cubic feet.	Interest and repairs per 1,000 cubic feet.	Interest and repairs of mud punts per 1,000 cubic feet.	Total.
1	2	3	4	5
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Fouracres' dredgers ...	1 13 1	1 14 4	1 9 6	5 4 11
Bruce's do. ...	1 10 11	2 0 8	1 9 6	5 5 1
English or ladder dredgers ...	1 13 10	2 14 3	1 9 6	6 5 7

The Superintending Engineer gives also the following statistics of the gross cost of dredging done on the Sone Canals, but he points out that the figures do not include provision for the depreciation of the plant.

PERIOD.	Gross quantity dredged in all divisions.	Cost of "lifting" and "discharging"	Repairs to dredging plant.	Total cash expenditure.	Interest on capital cost of plant.	Grand total.
1	2	3	4	5	6	7
	Cubic feet.	Rs.	Rs.	Rs.	Rs.	Rs.
Average of 5 years ending 31st March 1889.	10,979,293	62,826	13,575	76,401	19,609	96,010
Year 1889-90 ...	10,378,752	57,395	13,660	71,061	19,609	90,670
" 1890-91 ...	12,357,802	62,644	15,635	78,279	19,609	97,888
" 1891-92 ...	10,967,078	61,433	13,933	75,366	19,609	94,975
" 1892-93 ...	13,034,651	63,781	13,455	77,236	19,609	96,845
" 1893-94 ...	13,515,482	69,374	13,744	83,118	19,609	1,02,727
Average of 5 years ending 31st March 1894.	12,050,753	62,925	14,087	77,012	19,609	96,621
Year 1894-95 ...	9,432,461	40,264	11,630	51,894	24,039	75,993

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105. The quantity of silt cleared by hand from main canals in the Eastern Sone Division and the cost, compared with the figures for the two previous years, is shown below:—

SILT CLEARED BY HAND.

1	1892-93.			1893-94.			1894-95.		
	Quantity cleared by hand.	Cost.	Rate.	Quantity cleared by hand.	Cost.	Rate.	Quantity cleared by hand.	Cost.	Rate.
	2	3	4	5	6	7	8	9	10
	C. feet.	Rs.	Rs. A. P.	C. feet.	Rs.	Rs. A. P.	C. feet.	Rs.	Rs. A. P.
Western Main and Patna Canals...	5,836,101	23,430	4 0 2	5,395,181	20,426	3 12 7	5,495,278	23,377	4 4 1

From the Western Main Canal 998,888 cubic feet of silt were excavated by hand, at a cost of Rs. 5,350, and the total quantity dredged was 4,272,874 cubic feet.

106. The following figures give the cost of weed-clearing for the last five years:—

WEED CLEARING.

DIVISION.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Eastern Sone ...	396	277	366	584	...
Arrah ...	1,299	2,470	466	1,391	638
Dehri Workshop ...	1,350	1,060	1,435	1,656	2,273
Buxar ...	1,505	2,206	1,583	1,134	179
Total ...	4,550	6,013	3,850	4,765	3,090

107. The following statement compares the cost of repairs to main canals and distributaries per mile during the year, with the cost in the two previous years.

MILEAGE RATES OF REPAIRS OF CANALS AND DISTRIBUTARIES.

CANAL.	Division.	1892-93.		1893-94.		1894-95.	
		Number of miles.	Cost per mile.	Number of miles.	Cost per mile.	Number of miles.	Cost per mile.
		3	4	5	6	7	8
1	2	No.	Rs.	No.	Rs.	No.	Rs.
Eastern Main Canal	Eastern Sone ...	7½	3,870	7½	3,986	7½	4,163
	Dehri Workshops ...	9	5,641	9	5,980	9	4,973
Western ditto	Buxar ...	12½	467	12½	987	12½	181
	Do. ...	45½	306	45½	338	45½	282
Buxar Canal	Eastern Sone ...	79	388	79	323	79	281
Patna do.	Arrah ...	65½	653	65½	441	65½	318
Arrah do.	Do. ...	40½	145	40½	170	40½	132
Dumraon Branch	Do. ...	31	256	31	208	31	263
Behea ditto	Buxar ...	39½	150	39½	119	39½	98
Chowsea ditto	Do. ...	38	107	38	93	38	89
Gurrah Chowbey Branch	Arrah ...	469	52	469	53	70	35
	Buxar ...	388½	40	391½	28	408½	29
Distributaries	Eastern Sone ...	350½	45	350½	30	350½	25

PLANTATIONS.

108. The number of trees, classified according to size, in the plantations in each division are shown below:—

DIVISIONS.	1894-95.				1893-94.				Increase.	Decrease.
	Trees over 12 feet in height.	Saplings between 4 and 12 feet.	Seedlings under 4 feet.	Total.	Trees over 12 feet in height.	Saplings between 4 and 12 feet.	Seedlings under 4 feet.	Total.		
1	2	3	4	5	6	7	8	9	10	11
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Eastern Sone	101,083	31,498	45,250	177,831	99,564	34,125	46,731	180,410	...	2,579
Arrah	69,087	24,324	31,063	124,474	61,425	25,243	30,561	123,319	1,255	...
Dehri Workshops	49,831	8,885	17,701	76,477	17,240	37,577	24,378	79,243	...	2,768
Buxar	25,077	8,720	14,097	47,894	25,374	8,187	16,196	49,767	...	1,863
Total	245,138	73,427	108,111	426,676	209,653	105,122	117,836	432,631	1,555	7,210
					Net decrease ... ..				...	5,953

The decrease is explained as due to the destruction of seedlings from various causes.

The receipts and expenditure of the year were as under:—

DIVISION.	Receipts.	Expenditure.
1	2	3
	Rs.	Rs.
Eastern Sone	585	445
Arrah	249	1,905
Dehri Workshops	845	2,400
Buxar	41	2,156
Total	1,720	6,906

MILLS.

109. A sum of Rs. 1,715 was realized during the year for the leasing of mills, the expenditure on their up-keep being Rs. 182.

Maulvi Syed Mahamed Nasiruddin was in charge of the Revenue Division during the year and did excellent work.

CALCUTTA AND EASTERN CANALS.

CAPITAL ACCOUNT.

110. The Capital and Revenue Accounts of these canals are given below:—

1.—CAPITAL ACCOUNT.

HEADS OF ACCOUNT.				Outlay during 1894-95.	Outlay to end of 1894-95.
1				2	3
				Rs.	Rs.
Direct charges ... ..	...	...	...	1,076	53,50,585
Less—Receipts on capital account ... ..	...	...	...	...	54,467
Total direct charges ... ..	...	...	...	1,076	52,96,118
Indirect charges ... ..	...	...	...	...	62,404

The expenditure charged to Capital Account during the year was confined to an adjustment of land charges by the Civil Department, in connection with the completion of the work on the improvement of the bad bend in the Jangulia river in the steamer route mentioned in last year's report.

2.—REVENUE ACCOUNT—(Actuals).

REVENUE
ACCOUNT.

	EXPENDITURE—			RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
DIRECT CHARGES.	Rs.	Rs.		Rs.	Rs.
I.—Works, Maintenance and Repairs	2,34,597	2,36,369	Navigation ...	4,07,695	4,30,769
			Miscellaneous ...	13,129	12,688
II.—Revenue Management ...	39,344	39,553	Total ...	4,20,824	4,43,457
Total direct charges	2,73,941	2,75,922	Less—Refunds of revenue ...	283	454
Indirect charges ...	13,188	13,345			
Total working expenses ...	2,87,129	2,89,267			
Profit ...	1,33,412	1,53,736			
Total ...	4,20,541	4,43,003	Net total receipts	4,20,541	4,43,003

NOTE.—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph 111 following.

111. The following is a statement of the receipts, working expenses, and net revenue of the canals for each of the last ten years:—

FINANCIAL
RESULTS.

	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9	10	11
RECEIPTS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Navigation ...	5,01,141	4,77,199	5,74,766	5,69,920	4,88,300	5,19,263	5,15,125	4,61,716	4,07,695	4,30,769
Miscellaneous ...	(—)21,657	6,453	5,163	5,234	7,312	5,883	10,218	15,523	13,129	12,688
Total ...	4,79,484	4,83,654	5,79,934	5,75,144	4,95,612	5,25,146	5,25,343	4,80,244	4,20,824	4,43,457
Less—Refunds of revenue ...	...	...	...	19	78	61	124	139	283	454
Net total receipts ...	4,79,484	4,83,654	5,79,934	5,75,125	4,95,543	5,25,085	5,25,219	4,80,114	4,20,541	4,43,003
WORKING EXPENSES.										
DIRECT CHARGES.										
I.—Works, Maintenance, and Repairs.										
Works (extensions and improvements) ...	32,277	5,092	1,478	4,373	1,344	36,676	36,280	(—)23,498	53	1,766
Maintenance and Repairs ...	67,042	1,02,480	1,04,527	1,63,636	1,65,315	1,47,872	1,72,457	1,65,225	1,64,943	1,64,876
Establishment, including direction and accounts ...	22,833	24,255	49,248	46,061	56,618	64,041	65,757	49,754	54,856	55,769
Tools and plant ...	18,944	8,347	18,139	29,054	13,516	20,601	12,541	13,207	14,745	15,058
Total ...	1,41,096	1,40,174	1,73,392	2,44,264	2,36,877	2,71,250	2,87,044	1,69,686	2,34,597	2,36,369
II.—Revenue Management.										
Navigation Establishment ...	44,751	42,714	38,920	37,684	36,281	38,343	41,359	39,935	39,344	39,553
Total direct charges ...	1,86,747	1,82,888	2,12,312	2,81,948	2,66,968	3,09,623	3,28,403	2,32,621	2,73,941	2,75,922
INDIRECT CHARGES.										
Capitalization of abatement of land revenue ...	...	...	...	...	...	...	...	...	...	...
Leave and pension allowances ...	9,462	9,376	12,344	11,853	12,165	14,334	14,996	12,556	13,188	13,345
Total indirect charges ...	9,462	9,376	12,344	11,853	12,165	14,334	14,996	12,556	13,188	13,345
Total working expenses ...	1,96,209	1,92,264	2,24,656	2,93,801	2,79,133	3,23,957	3,43,399	2,62,177	2,87,129	2,89,267
Net revenue ...	2,83,275	2,91,390	3,55,278	2,81,324	2,16,410	2,01,128	1,81,820	2,27,637	1,33,412	1,53,736

Under extensions and improvements a few useful works including a masonry latrine, a landing ghat, and a small masonry building for the Chitpur durwan, were undertaken, at an aggregate cost of Rs. 1,275. Under this head also was charged the cost of a survey amounting to Rs. 491, of the Bhangore khal which was necessary for the preparation of the estimates and plans for its canalization.

The percentage of the net revenue on the capital outlay is shown below for ten years :—

YEAR.	CAPITAL OUTLAY (DIRECT AND INDIRECT)—		RECEIPTS AND WORKING EXPENSES.			Percentage of net revenue to capital outlay to end of year.
	During the year.	To end of the year.	Gross revenue.	Charges (direct and indirect).	Net revenue.	
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	
1885-86 ...	(—) 12,566	52,17,981	(a) 4,79,484	1,96,209	2,83,275	5.4
1886-87 ...	5,293	52,23,274	4,83,654	1,92,264	2,91,390	5.5
1887-88 ...	15,842	52,39,116	5,79,934	2,21,656	3,55,278	6.7
1888-89 ...	49,369	52,88,485	5,75,125	2,93,891	2,81,324	5.3
1889-90 ...	(—) 281	52,88,204	4,95,543	2,79,133	2,16,410	4.1
1890-91 ...	5,693	52,93,897	5,25,085	3,23,957	2,01,123	3.8
1891-92 ...	(—) 10,327	52,83,570	5,25,219	3,43,399	1,81,820	3.4
1892-93 ...	74,279	53,57,849	4,80,114	2,52,177	2,27,937	4.2
1893-94 ...	(—) 103	53,57,446	4,20,541	2,87,129	1,33,412	2.5
1894-95 ...	1,076	53,58,522	4,43,003	2,89,267	1,53,736	2.8

(a) Is Rs. 35,185 smaller than it should be by reason of error of account.

The actual realizations of the year were Rs. 22,462 in excess of those of 1893-94, while the increase in the working expenses was only Rs. 2,138. The improvement, though not great, may, on the whole, be considered satisfactory. The supervisor of the canals, Mr. Cooksey, regards with disfavour the increase in the number of steamers and flats using the Circular Canal. The number which entered it during the year was 221 against only 45 in 1893-94. The Superintending Engineer states that the new measurement rules are undoubtedly favourable to flats. He writes :—

“Under existing rules, native boats pay tollage on the maundage carried; whereas, flats pay approximately on 65 maunds for every hundred maunds of cargo. As the number of flats is steadily increasing, it now becomes a question if a rule should not be at once introduced so as to ensure flats paying, like country boats, on the actual weight of cargo on board.”

LENGTHS OF CANALS.

112. There was no change in the lengths of the canals open for navigation. They are as follows :—

	Miles.
Calcutta and new canals ...	10
Tolly's Nala with 20 miles of Kaorapookhar khal ...	37
Total Calcutta Canals ...	47
Eastern Canals { Inner boat route ...	189 }
Outer ditto ...	127 }
Steamer route ...	350
Total Calcutta and Eastern Canals ...	713

113. The statement below shows the collections made during the year by the Collector and Supervisor of the Canals and by the Executive Engineer, respectively:—

CANALS.	Number of boats and rafts.	COLLECTIONS BY COLLECTOR AND SUPERVISOR.						COLLECTIONS BY EXECUTIVE ENGINEER.	GRAND TOTAL, GROSS REVENUE.
		Tolls from boats and rafts.	Denturrage.	Ferry tolls.	Tolls from steamers and flats.	Rents of buildings, lands, and other miscellaneous receipts.	Total.	Rents of buildings, lands, and other miscellaneous receipts.	
1	2	3	4	5	6	7	8	9	10
	No.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Calcutta and Eastern Canals.	71,126	3,06,237	5,106	3,776	5,495	6,566	3,27,160	7,853	4,20,824
Tolly's Nala	74,338	83,252	1,277	1,055	...	202	85,786		
Total 1894-95	145,273	4,12,738	5,594	4,145	6,325	6,295	4,25,697	7,760	4,43,457
Total 1893-94	145,511	3,89,489	6,383	4,831	5,495	6,768	4,12,066	7,858	4,20,824

The tolls from boats and rafts, which constitute the chief source of revenue from these canals, amounted during the year to Rs. 4,12,738 against Rs. 3,89,489 of the previous year. This increase was due in a great measure to the large rice and jute crops in Eastern Bengal, which stimulated the traffic in these products. There was also a very substantial increase in the coal traffic, while in salt, though there was an increase in the tonnage, the tollage, was Rs. 1,503 less than last year. This was due to the larger use of flats which as stated in paragraph 111 pay tolls on only $\frac{2}{3}$ of their actual cargo, and also to a larger quantity being sent in to the canal and there unloaded, for which a reduced rate is charged.

In kerosine oil there was a large decrease, chiefly due to the diversion of the traffic to the Eastern Bengal Railway. The Superintending Engineer considers that a great portion of the jute traffic also, which was formerly borne by the canal, has been diverted to the Railway.

114. The following table classifies the boats which used the canals during the last two years:—

NUMBER AND CLASS OF BOATS—							
YEAR.	Canal.	Up to 100 maunds.	Between 100 and 1,000 maunds.	Between 1,000 and 2,500 maunds.	Between 2,500 and 5,000 maunds.	Over 5,000 maunds.	Total.
1	2	3	4	5	6	7	8
1893-94	Calcutta and Eastern Canals.	40,003	23,480	6,778	775	26	71,063
	Tolly's Nala	23,068	12,657	855	2	...	36,582
	Total 1893-94	63,071	36,137	7,633	777	26	1,07,644
1894-95	Calcutta and Eastern Canals.	41,469	27,278	3,494	184	37	72,463
	Tolly's Nala	24,087	12,551	136	...	...	36,774
	Total 1894-95	65,556	39,829	3,630	184	37	109,236

In the total number of boats which entered the canals during the year, there was an increase of 1,592. No comparison can be made of the numbers of boats of different classes in the two years, owing to the change in the system of measurement. In 1893-94 some boats were measured under the old, some under the new, system.

There was a decrease in the number of small boats which entered Tolly's Nala from Koarapookhar and paid tolls at Russa, from Rs. 37,749 in 1893-94 to Rs. 35,965 in 1894-95. Including these boats the total number was 145,201 against 145,393 in the previous year.

The tonnage of boats as determined by canal measurement, and the estimated weight and value of the cargo* are shown in the comparative statement below:—

YEAR.	Canal.	Number of boats, excluding rafts.*	Tonnage of boats by canal measurement.	Weight of cargo in tons.	Value of cargo.	Tollage, including demurrage.	Percentage of toll on value of cargo.
1	2	3	4	5	6	7	8
		No.	Tons.	Tons.	Rs.	Rs.	Rs.
1893-94 ...	Circular Canal	71,062	851,462	534,913	4,52,26,749	3,16,794	
	Tolly's Nala ...	74,331	339,261	187,493	1,26,50,485	84,288	
	Total 1893-94 ...	145,393	1,190,723	722,406	5,78,77,234	4,01,082	0.69
1894-95 ...	Circular Canal	72,462	768,964	560,601	4,69,91,110	3,31,531	
	Tolly's Nala ...	72,739	256,777	199,261	1,40,13,278	93,490	
	Total 1894-95 ...	145,201	1,055,741	759,852	6,10,04,388	4,25,021	0.69

* Includes passenger and empty boats.

The decrease of tonnage is only apparent and is due to the new system of measurement introduced in 1893-94.

The increase in the weight and value of the cargo is attributed to the increase in the rice and jute traffic.

MISSING
TICKETS.

115. The number of missing tickets in each of the last ten years is shown below:—

YEAR.	No.	YEAR.	No.
1885-86 ...	653	1890-91 ...	212
1886-87 ...	542	1891-92 ...	210
1887-88 ...	677	1892-93 ...	169
1888-89 ...	329	1893-94 ...	252
1889-90 ...	238	1894-95 ...	170

The reduction from 252 in the previous year to 170 during the year under review is satisfactory.

REVENUE
ESTABLISH-
MENT.

116. The following statement compares the cost of the revenue establishment for each of the last five years:—

PARTICULARS.	1890-91.	1891-92	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Salary and commission of Supervisor ...	11,475	11,863	10,529	9,780	9,946
Salary of Canal Inspectors ...	5,172	5,016	5,013	4,545	4,882
Supervisor's office establishment ...	5,155	5,424	6,076	6,879	6,931
Canal police ...	2,061	2,049	2,059	2,058	2,067
Supervisor's steam-launch establishment ...	98	...	...	...	...
Inspector's boat establishment ...	1,049	1,036	696	691	685
Dhappa water-boat establishment ...	168	168	166	168	168
Dafadars ...	271	430	828	747	828
Travelling allowance ...	22	71	71	113	42
Contingencies ...	1,261	3,125	2,106	1,877	1,624
Toll-collecting establishment ...	11,478†	12,127†	12,391	12,486†	12,232†
Total cost of establishment ...	38,210	41,359	39,935	39,344	39,405

† Includes salaries of darogas, clerks, cashiers, kootnavises, koyals, toll peons, and dinghi crews.

117. The miscellaneous receipts during the year amounted to Rs. 12,688 against Rs. 13,129 in 1893-94, showing a small decrease of Rs. 441. MISCELLANEOUS RECEIPTS.

118. The expenditure under this head was Rs. 1,766 against Rs. 53 in the previous year. EXTENSIONS AND IMPROVEMENTS.

119. The statement below shows the distribution of the maintenance charges under the several sub-heads as compared with the previous year:— MAINTENANCE AND REPAIRS.

CANALS.	Locks.	Masonry bridge.	Roads.	Buildings.	Plantations.	Dredging.	Channel and banks.	Towpath.	Rustic bridges.	Steam-launches.	Miscellaneous.	Drainage.	TOTAL
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Calcutta Canals, 1894-95 ...	3,081	3,721	16,256	1,993	481	24,696	5,396	961	437	3,627	13,357	82	74,088
Ditto, 1893-94 ...	3,452	3,781	16,164	2,473	521	14,916	7,370	1,214	560	3,896	11,923	162	66,437
Tolly's Nala, 1894-95 ...	...	2,234	227	522	...	...	464	420	185	...	97	...	4,149
Ditto, 1893-94 ...	...	3,719	241	4,462	...	...	490	425	205	...	13	...	9,555
Steamer route 1894-95 ...	...	...	...	...	...	...	...	...	...	...	2,094	...	2,094
Ditto, 1893-94 ...	...	...	...	...	...	...	...	...	...	...	2,095	...	2,095
Eastern Canals, 1894-95 ...	...	...	...	2,014	581	3,826	31,507	15,566	22,621	...	8,430	...	84,545
Ditto, 1893-94 ...	...	...	...	1,238	674	6,653	30,135	20,416	20,346	...	7,394	...	86,856
Total, 1894-95 ...	3,081	5,955	16,483	4,529	1,062	28,522	37,367	16,947	23,243	3,627	23,978	82	1,64,876
Total, 1893-94 ...	3,452	7,500	16,405	8,173	1,195	21,569	37,995	22,055	21,111	3,896	21,430	162	1,64,943

The increased expenditure on dredging was chiefly owing to two of the dredgers being worked during the whole year instead of for nine months only as in the previous year.

The variations under the other sub-heads are not such as to call for special comment.

120. The work done by the dredgers and the cost, including that of delivering the mud, are shown below:— DREDGING AND SILT CLEARANCE.

	Quantity dredged.	Cost.	Rate per 1,000 cubic feet.
1	2	3	4
	C. feet.	Rs.	Rs. A. P.
Steam dredger, <i>Victoria</i> ...	812,400	7,970	9 12 11½
Fouracres' dredger ...	645,600	5,821	9 0 3
Marchant's hand dredger ...	339,000	3,825	11 4 6
Hydraulic dredger, <i>Clinker</i> ...	1,463,670	10,902	7 7 2

The actual rates of dredging, excluding the cost of delivering the mud, the cost of repairs, and the interest on original cost of dredging plant, were as follows:—

	Rs. A. P.
Steam dredger, <i>Victoria</i> ...	4 5 6
Fouracres' dredger ...	3 6 10
Marchant's hand dredger ...	0 11 5
Hydraulic dredger, <i>Clinker</i> ...	2 15 6

Per 1,000 cubic feet.

The *Victoria* only worked for 139 days, the Fouracres' dredger for 254 days, the Marchant's dredger for 242 days and the *Clinker* for 229 days. The *Victoria*, Fouracres and *Clinker* are all steam dredgers.

PLANTATIONS.

121. The state of the plantation for the last two years is shown below:—

YEAR.	Trees over 12 feet.	Saplings from 4 to 12 feet.	Seedlings below 4 feet.	Total.
1	2	3	4	5
1893-94 ...	No. 2,496	No. 1,977	No. 720	No. 5,193
1894-95 ...	No. 2,986	No. 1,684	No. 601	No. 5,271

The cost incurred during the year was Rs. 1,062 against Rs. 1,195 in 1893-94.

STEAMER
ROUTE.

122. The expenditure on the steamer route and the receipts from steamers and flats using it are shown below for each of the last ten years:—

YEARS.	Receipts.	EXPENDITURE—			Net revenue.	REMARKS.
		On capital account.	On revenue account.	Total.		
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	
1885-86 ...	5,230	15,096	1,629	16,725	(—)1,495	
1886-87 ...	4,365	.....	1,627	1,627	2,738	
1887-88 ...	4,445	.....	1,864	1,864	2,581	
1888-89 ...	4,670	.....	5,352	5,352	(—)682	
1889-90 ...	4,640	.....	2,094	2,094	2,546	
1890-91 ...	5,425	.....	2,268	2,268	3,157	
1891-92 ...	4,640	.....	1,920	1,920	2,720	
1892-93 ...	4,955	28,964	2,094	31,058	(—)26,103	
1893-94 ...	5,495	627	2,094	2,721	2,774	
1894-95 ...	6,925	754	2,094	2,848	4,077	
Total ...	50,790	45,441	23,036	68,477	(—)17,687	

The increase in the receipts amounted to Rs. 1,430 over those of last year, and as the expenditure was practically the same, the increase in the net revenue was Rs. 1,303.

ORISSA COAST CANAL.

123. The Capital and Revenue Accounts of this canal are given below:—

1.—CAPITAL ACCOUNT.

CAPITAL
ACCOUNT.

HEADS OF ACCOUNT.				Outlay during 1894-95.	Outlay to end of 1894-95.
1				2	3
				Rs.	Rs.
Direct charges ...	...	...	...	46,942	43,35,817
Less—Receipts on capital account ...	...	...	...	...	3,293
Total direct charges ...				46,942	43,32,524
Indirect charges ...	...	...	...	634	1,04,939

The canal, which, including $4\frac{1}{2}$ miles of river crossing, is 102 miles long from end to end, was open for navigation throughout the year.

There was an expenditure of Rs. 19,684 under capital account during the year on the works detailed below:—

	Rs.
(a) Building a new inspection bungalow at Charbatia ...	1,619
(b) Ditto ditto at Bhaitghur ...	2,602
(c) Remodelling flood escapes on Ranges IVA and V ...	7,744
(d) Making a new escape in the 109th mile of Range V and closing an old one at Jamka in the 108th mile ...	6,042
Completing the dock and two tanks at Panchpali ...	360
Dredging some of the unexcavated portions of Ranges IVA and V ...	1,317
Total ...	19,684

The Superintending Engineer writes:—

“The construction of the inspection bungalows at Charbatia and Bhaitghur was nearly completed when the year expired. A commencement was made with the revetted escapes at Jamka, Panchpali, Gumai, and Atilabad, consisting of brick blocks laid at certain levels with stone pitching between them one foot deep.

The new escape in the 109th mile of Range V was completed in place of the one closed in the 108th mile at Jamka. The remodelling of the Jamka sluice was taken in hand, but not completed.”

2.—REVENUE ACCOUNT—(Actuals.)

REVENUE
ACCOUNT.

PARTICULARS.	EXPENDITURE —		PARTICULARS.	RECEIPTS —	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
DIRECT CHARGES.	Rs.	Rs.	Water-rates ...	Rs.	Rs.
I.—Maintenance and repairs ...	87,103	76,448	Navigation ...	95,233	64,094
II.—Revenue manage-ment ...	7,029	6,898	Miscellaneous ...	2,477	1,937
Total direct charges ...	94,132	83,346	Total ...	97,710	66,031
Indirect charges ...	4,001	3,725	Less—Refunds of revenue ...	1,143	91
Total working expenses	98,133	87,071			
Net revenue ...	(—)1,566	(—)21,131			
Total ...	96,567	65,940	Net total receipts	96,567	65,940

NOTE.—The details by heads of expenditure for the year 1893-94 and nine preceding years will be found in the table given in paragraph 124 following.

The receipts were less by Rs. 30,627 than those of 1893-94, which were exceptionally large owing to the abnormal pilgrim traffic, but were about the average of ordinary years. The net result was a loss of Rs. 21,131.

The reduction in the maintenance expenditure from the figures of the previous year amounted to Rs. 10,655. On works alone the rate was Rs. 541 per mile as compared with Rs. 613 per mile in 1893-94. The repairs of the sluices damaged by the cyclone of May 1893 formed no inconsiderable item in the expenditure, the Jamka outlet sluice in particular having been very roughly treated. The other important works executed under repairs were the opening of a channel from the Bhograi lock to the Subarnrekha, owing to the deterioration of the Guchida river; the repairs to several escapes; silt-clearing from the outfall channel of the Kansbans sluice; and the revetment of the eroded left bank of the Burrabullong river close to the Nulcool lock.

125. An important change in the tollage assessments was made during the year by the introduction, on the 1st January 1894, of through tickets at reduced rates from various toll stations on the Coast Canal to Gewankhali. The rate from Balasore to Gewankhali was reduced from 86 to 66 annas, and on Range V also the rate was reduced from 38 to 28 annas. The object aimed at was to induce boats to use the Hijili Tidal Canal instead of going round by sea to the Hooghly, and also to stimulate traffic on Range V. Notwithstanding this concession, the Executive Engineer reports that "boats still prefer to use the Rasalpur and Haldi rivers when weather permits," and that 8,610 boats adopted this route, rather than pay the tollage on the Tidal Canal. The Superintending Engineer believes this must be chiefly local traffic from the river marts, and suggests, as worthy of consideration, the reduction of the tollage on the Hijili Canal during the cold weather months.

To estimate the effect of the reduced rates, a comparison with the returns of 1892-93 should be made rather than with those of 1893-94 when, as stated in paragraph 123, the traffic was abnormal. The following is an abstract from the returns of the two years:—

Year.		Tonnage.	Tollage.
			Rs.
1892-93	... 11,334 boats 851 steamers	100,807	{ 37,406 from boats. 18,372 from steamers.
1894-95	... 15,477 boats 863 steamers	151,442	{ 44,342 from boats. 18,297 from steamers.

Though the reduced tolls applied to the steamers, they actually pay $7\frac{1}{2}$ per cent. higher rates than they did in 1892-93, owing to the reduction in the allowance made for engine space from $\frac{1}{2}$ to $\frac{1}{3}$ rd. Consequently, the decrease in their tollage shown in the table above, must have been due to lighter loads, as their number increased from 851 in 1892-93 to 863 in 1894-95. The increase in the tonnage of boats was 50 per cent., which was probably due as much to the good rice crop as to the reduction in the tollage. Regarding the effect of the reduction of rates on Range V, the Superintending Engineer writes:—

"It is satisfactory to note an increase of tollage on Range V, notwithstanding the reduced rate. Rice is now being boated down this part of the canal from Balasore for shipment at Chandbali."

126. The following table compares the traffic of the year with that in 1893-94:—

CANAL.	Number of boats.		Tonnage of boats.		Value of cargo, including rafts.		Tolls.	
	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9
Orissa Coast Canal	No. 11,823	No. 10,771	Tons. 1,18,255	Tons. 1,27,662	Rs. 37,45,657	Rs. 31,27,901	Rs. 95,233	Rs. 64,094

All the rivers were in high flood in July 1894, but no damage worth recording was done.

The highest levels in the various ranges were as follows:—

Range III	...	...	=113.10	on 29th July 1894.
„ IVA	...	...	=115.50	on 25th ditto.
„ IVB	...	...	=115.80	on 26th ditto.
„ V	...	...	=113.80	on 29th ditto.

SARAN CANALS.

131. The Capital Account of these canals has been closed. The Revenue Account is given below:—

REVENUE ACCOUNT—(Actuals).

PARTICULARS.	EXPENDITURE—		PARTICULARS.	RECEIPTS—	
	During 1893-94.	During 1894-95.		During 1893-94.	During 1894-95.
1	2	3	4	5	6
DIRECT CHARGES.	Rs.	Rs.		Rs.	Rs.
Maintenance and repairs.	5,962	1,479	Water-rates ...	6,764	938
			Navigation ...	...	...
			Miscellaneous ...	50	444
INDIRECT CHARGES ...	243	63			
			Total ...	6,814	1,382
Total working expenses	6,205	1,542	Less—Refunds of revenue.	530	3,182
Net revenue ...	79	(—)3,342			
Total ...	6,284	(—)1,800	Net total receipts	6,284	(—)1,800

NOTE.—The details by heads of expenditure for the year 1894-95 and nine preceding years will be found in the table given in paragraph 132 following.

132. The receipts on Revenue Account and working expenses of the Saran Canals for the last ten years are shown in the following statement:—

	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9	10	11
RECEIPTS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Water-rates ...	39,737	11,072	21,070	20,415	22,990	36,823	15,755	1,402	6,764	938
Navigation ...	1,406	1,355	(—) 405	399	123	160	46	34	50	444
Miscellaneous ...										
Total ...	41,143	12,427	20,665	20,814	23,113	36,983	15,831	1,526	6,814	1,382
Less—Refunds of revenue ...									530	3,182
Net total receipts ...	41,143	12,427	20,665	20,814	23,113	36,983	15,831	1,526	6,284	(—) 1,800
WORKING EXPENSES.										
Direct charges.										
Maintenance and repairs ...	18,014	23,481	18,001	23,976	24,900	26,454	9,021	9,517	4,111	1,037
Establishment ...	4,144	5,400	9,113	10,248	12,422	10,560	3,710	3,772	1,733	447
Tools and plant ...	593	(—) 978	400	673	991	389	(—) 193	213	113	5
Total direct charges ...	22,751	27,903	28,120	34,897	38,313	37,403	12,538	13,502	5,962	1,479
Indirect charges.										
Capitalization of abatement of land revenue ...	580	756	1,277	1,435	1,739	1,478	519	528	243	63
Leave and pension allowances ...										
Total indirect charges ...	580	756	1,277	1,435	1,739	1,478	519	528	243	63
Total working expenses ...	23,331	28,659	29,397	36,332	40,052	38,881	13,057	14,030	6,205	1,542
Net revenue ...	17,812	(—) 16,232	(—) 8,732	(—) 15,518	(—) 16,939	(—) 1,898	2,774	(—) 12,504	79	(—) 3,342

LENGTH OF
CANALS OPEN
AND ARRAS
COMMANDED
AND IRRIGAT-
ED.

133. There was no change in the lengths of the canals, which are given in the following table:—

NAME OF CANAL.	1894-95.								1893-94.							
	Navigable canals.	Canals for irrigation only.	Distributaries.	Area protected from flood.	Area under command.	Area provided with distributaries.	Area irrigated.	Percentage of area irrigated to area provided with distributaries.	Navigable canals.	Canals for irrigation only.	Distributaries.	Area protected from flood.	Area under command.	Area provided with distributaries.	Area irrigated.	Percentage of area irrigated to area provided with distributaries.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<i>Saran Canals.</i>		Miles.			Acres.		Acres.			Miles.			Acres.		Acres.	
Main canal or head cut		6.34								6.34						
<i>Branch Canals.</i>																
I.—Daha feeder		3.34			64,000		Nil			3.34			64,000		1,568	
II.—Gandaki		1.57								1.57						
III.—Dhanai		1.00								1.00						
IV.—Gandaki		6.57								6.57						
In addition to the above, the following are maintained:—																
I.—Thakraha Sota		1.50								1.50						
II.—Roopan Chap Sota		27.00								27.00						

These canals were closed on the 31st March 1894, by the construction of dams across the mouths of the feeders. The 38 miles of distributaries in the Moniara and Sadowa estates are the property of the proprietors of those concerns. No other distributaries exist. Two dams, constructed ten years ago by the Manager of Moniara, across the Daha, for irrigation purposes, were cut during the year to allow the drainage of the head cut to pass down the canal.

RAINFALL.

134. The average rainfall on the area under command is shown by seasons in the table below for the last five years:—

	1890-91.	1891-92.	1892-93.	1893-94.	1894-95
	Inches.	Inches.	Inches.	Inches.	Inches.
Kharif season*	24.60	11.52	27.70	24.96	28.55
Rabi	1.43	0.61	2.29	1.08	2.62
Year	58.63	35.05	49.19	49.95	51.28

* August, September and October.

The Superintending Engineer writes:—

"The rainfall was very general over the whole district and was even more favourable than the previous year; light and seasonable rain fell during the hot-weather months. The rainfall during the rains, especially in September and October, was abundant, so that even if the canals had been opened, there would have been no demand for irrigation. Both the indigo and rice crops gave better outturns than the average."

FLOODS.

135. The floods which occurred during the year were not very high, but one which came down the Gunduk on the 27th June 1894 caused a good deal of damage to indigo and other crops on the Dearas.

IRRIGATION.

136. As the canals were closed, there was no irrigation during the year.

ASSESSMENTS,
COLLECTIONS
AND BALANCES.

137. The agreement with the proprietors of the Moniara and Sadowa concerns, which expired on the 31st March 1894, was not renewed. It was decided to make a radical change in the system of working the canals, and rules were accordingly published in the *Calcutta Gazette*, laying down the conditions under which water would be admitted to them. The most important of these is that payment of the charge levied for the supply of water to any canal must accompany any application for the opening of its head sluice. The amounts fixed for each canal are as follows:—

	Rs.
No. III.—The Daha	10,000
" IV.— " Gandaki	5,500
" V.— " Dhanai	6,500
" VI.— " Gangri	8,000
Total	30,000

As no one applied during the year to have any sluice opened, the canals remained closed throughout the year.

When the agreement with the proprietors of Moniara and Sadowa terminated on the 30th March 1894, there were two outstanding revenue accounts—

(i) The account with the old guarantors whose agreement expired on the 31st March 1891.

The discrepancies which existed between the Collector's account and that kept by the Executive Engineer, were carefully investigated during the year by the Executive Engineer and the Collector, and the following is the amended account up to the 31st March 1895:—

Serial number.	GUARANTEERING FACTORY.	BY TREASURY ACCOUNT BALANCE ON 1st APRIL 1891.		Collected from April 1st 1891 to 31st March 1894.	BALANCE ON 31st MARCH 1894.		Amount paid or written off as per legal Gov. ernment No. 1461, dated 2nd January 1895, to Commissioner of Patna.	Balance due to on 1st April 1895.	REMARKS.
		From factory.	To factory.		Due from	Due to			
1	2	3	4	5	6	7	8	9	10
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
1	Moniara	...	3,167 10 3	269 5 6	...	3,426 15 9	3,167 0 0	259 15 9	* Paid.
2	Sadowa	1,300 0 0	...	1,671 7 8	...	111 7 8	*75 0 0	34 7 8	* Paid.
3	Jogapora	2,561 10 1	...	2,468 8 0	63 2 1	...	*63 2 1	...	* Written off.
4	Burhoga	...	...	...	...	...	...	...
5	Arrowa	2,615 14 1	...	619 7 9	1,996 6 4	...	*1,996 6 4	...	* Written off.
6	Ramkola	...	...	...	...	...	...	...
7	Barhowli	...	...	...	...	...	...	...
8	Rajapatty	...	...	...	...	...	...	...
9	Sitalpore	...	...	...	...	...	...	...
10	Hurpur	...	...	...	...	...	...	...
11	Bansopali	500 0 0	...	500 0 0	...	...	...	...
12	Gaighat	231 4 6	...	231 4 6	...	...	...	...
	Total	7,408 12 8	3,167 10 3	5,720 1 5	2,059 8 5	3,538 7 5	5,301 8 5	296 7 5	

(ii) The account with the proprietors of the Moniara and Sadowa concerns for three years from the 1st April 1891 to the 31st March 1894.

At the beginning of the year there was still an outstanding balance of Rs. 4,382 which, by the terms of the agreement, should have been paid to Government by the proprietors on or before the 31st March 1894. But there was a sum of Rs. 5,267 outstanding for irrigation done outside the proprietors' dehats, which, if it had been recovered, would have been payable to them. A compromise was therefore effected. A sum of Rs. 3,724, which represented the total of all demands over Rs. 2 of these assessments, was credited to the proprietors' accounts, and the balance Rs. 1,648, was remitted to the cultivators. There then only remained a sum of Rs. 672 to be paid to Government by the proprietors. The amount was paid, and the account closed.

138. The expenditure on maintenance during the past five years is shown below:—

	Miles.	1890-91.	1891-92	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6	7
Repairs to head cut and river protective works	6-34	Rs. 7,445	Rs. 4,304	Rs. 1,341	Rs. 1,766	Rs. 432
Repairs to Daha feeder	3-34	1,290	357	544	499	166
" to Gandaki feeder	1-57	1,735	221	1,550	550	150
" to Dhanai feeder	1-00	592	65	411	242	119
" to Gangri feeder	6-57	2,777	129	565	424	170
" to dams and channels for irrigation purposes	...	12,615	3,945	5,106	681	...
Total	...	26,454	9,021	9,517	4,112	1,037
Establishment	...	10,560	3,710	3,772	1,738	447
Tools and plant (actual)	...	389	(-) 193	213	112	(-) 5
Refund of revenue	...	...	...	...	530	3,182
GRAND TOTAL	...	37,403	12,538	13,502	6,492	4,661

MAINTENANCE
AND REPAIRS.

141. The receipts on revenue account and working expenses for the last ten years are shown below:—

FINANCIAL
RESULTS.

	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
1	2	3	4	5	6	7	8	9	10	11	12	13
RECEIPTS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Navigation	1,83,382	2,02,707	1,98,318	1,91,791	1,95,983	2,00,508	1,92,718	1,65,380	1,71,166	1,41,419		
Miscellaneous	399	543	337	97	60	136	247	158	86	279		
Total	1,83,781	2,03,250	1,98,655	1,91,888	1,96,043	2,00,644	1,92,965	1,65,538	1,71,252	1,41,698		
Less—Refunds of revenue ... ..	...	...	...	...	220	162	228	18	1	...		
Total receipts	1,83,781	2,03,250	1,98,655	1,91,888	1,95,823	2,00,482	1,92,737	1,65,520	1,71,251	1,41,698		
WORKING EXPENSES.												
Direct Charges.												
Maintenance and repairs	43,084	29,061	46,201	88,933	47,843	52,482	62,704	68,763	77,364	68,588		
Establishment	31,563	29,293	41,925	43,395	38,537	45,410	45,838	51,581	58,732	60,669		
Tools and plant	1,759	1,409	3,593	2,380	2,250	2,476	1,330	1,644	1,861	1,890		
Suspense accounts	1,262	450	(—) 1,697	(—) 14	(—) 1,036	3,169	(—) 3,015	1,066	478	1,238		
Total direct charges	77,668	60,213	92,022	1,34,694	87,594	1,03,537	1,06,837	1,23,054	1,38,435	1,32,385		
Indirect Charges.												
Leave and pension allowances	4,419	4,101	5,870	6,075	5,395	6,337	6,417	7,221	8,222	8,494		
Total indirect charges	4,419	4,101	5,870	6,075	5,395	6,337	6,417	7,221	8,222	8,494		
Total working expenses	82,087	64,314	97,892	1,40,769	92,989	1,09,874	1,13,254	1,30,275	1,46,657	1,40,879		
Net revenue	1,01,694	1,38,936	1,00,763	51,119	92,834	90,608	79,483	35,245	24,594	819		

The decrease in the receipts, amounting to Rs. 29,553, was due to the Jalangi river being unnavigable for large boats during a considerable portion of the year. There can be no doubt that these rivers are gradually deteriorating, and the difficulties and cost of keeping them open for navigation are increasing every year. It is true there was some improvement in the state of the Bhagirathi, but the depth of water was not sufficient to allow large boats to ply on it, and the usual route by the Jalangi was entirely closed to them. The average receipts of late years have appreciably diminished, and the fast declining revenue has almost disappeared. The Executive Engineer seems hopeful, however, of an improvement next year, and the Superintending Engineer writes that "it is quite possible, with good entrances, and a plentiful supply in the Ganges, for the shoals to be so improved as to greatly reduce the cost of maintenance. It is to be hoped that from 1895-96 a new period of prosperity will begin for these rivers."

142. No rainfall register is kept up for these rivers.

The gauge readings at Gheria and Berhampore for the last six years are given below:—

RAINFALL.
FLOODS.

	GHERIA.	BERHAMPORE.
1889 ...	34.00	30'4½"
1890 ...	34.70	30'11½"
1891 ...	29.30	26'7"
1892 ...	31.55	29'11"
1893 ...	30.75	27'11½"
1894 ...	32.75	30'3½"

The highest flood levels of 1894-95 are compared below with the highest levels in the previous year and with the highest levels on record. The readings given are the heights above mean sea level:—

River.	Locality.	1894-95.		1893-94.		Highest known.	
		Date.	Reading.	Date.	Reading.	Date.	Reading.
1	2	3	4	5	6	7	8
Bhagirathi ...	Berhampore	29th Aug. 1894	64.04	20th Aug. 1893	61.70	14th Aug. 1890	64.71
Jalangi ...	Saruganj	6th Sept. "	29.41	20th Sept. "	27.42	28th " "	34.88
Mathabhanga ...	Hanskhali	27th Dec. "	24.96	1st Oct. "	23.75	3rd Sept. "	39.93

The Bhagirathi river rose to within $8\frac{1}{4}$ inches of the highest recorded level. The embankment at Laltakuri was seriously threatened, but happily the danger was successfully averted.

NAVIGATION.

143. The several classes of boats which plied on the rivers and the tolls collected from them are tabulated below:—

NAME OF RIVER.	NUMBER AND CLASS OF BOATS.						COLLECTIONS BY TOLL COLLECTORS.					
	Up to 100 maunds.	Between 100 and 1,000 maunds.	Between 1,000 and 2,500 maunds.	Between 2,500 and 5,000 maunds.	Over 5,000 maunds.	Total.	Tolls from boats.	Tolls from rafts.	Tolls from steamers and flats.	Total tolls.	Miscellaneous colls.	Total collections.
1	2	3	4	5	6	7	8	9	10	11	12	13
	No.	No.	No.	No.	No.	No.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bhagirathi (Jangipur toll station).	7,299	4,418	719	229	15	12,674	29,379	552	7,670	37,594		
Bhagirathi and Bhyrub-Jalangi (Saruganj toll station).	12,158	12,552	1,574	245	3	26,532	67,622	66	13,710	81,398	279	1,41,638
Mathabhanga and Ichamati (Hanskhali toll station).	4,905	5,157	305	14	...	10,431	22,334	22	11	22,427		
Total, 1894-95 ...	24,362	22,127	2,648	488	18	49,637	1,19,388	640	21,391	1,41,419	279	1,41,638
Total, 1893-94 ...	26,384	26,678	2,308	404	16	55,330	1,46,401	458	24,337	1,71,166	86	1,71,252

TRAFFIC.

144. The following is a statement of the number of boats, their tonnage the weight and value of their cargo, and the toll collection:—

NAME OF RIVER.	Number of boats, inclusive of steamers, flats and rafts.	Tonnage of boats.	Weight of cargo.	Value of cargo.	Toll* collection.	Percentage of toll on value of cargo.
1	2	3	4	5	6	7
	No.	Tons.	Tons.	Rs.	Rs.	
Bhagirathi ...	13,116	186,883	78,704	60,12,84	37,594	...
Ditto and Bhyrub-Jalangi ...	26,948	372,495	142,686	2,16,52,717	81,398	...
Mathabhanga and Ichamati ...	10,454	108,870	36,060	35,46,758	22,427	...
Total, 1894-95 ...	50,518	668,245	257,450	3,12,12,357	1,41,419	0.45
Total, 1893-94 ...	57,118	789,852	322,492	3,96,34,759	1,71,166	0.43

* Tolls from boats, steamers, flats and rafts.

145. No transport service is maintained by Government on these rivers. The steamer service kept up by the several companies are shown in the statement below:—

STEAMER
SERVICE.

NATURE OF SERVICE.	TERMINAL STATIONS—		Outward and inward.	PERIOD.
	From—	To—		
1	2	3	4	5
Weekly ...	<i>Calcutta Steam Navigation Company.</i> Calcutta ... Jangipur ...		Both ...	From 1st July to 23rd December 1894.
Twice a week ...	Kalna ...	Katwa and Juaganj.	Do. ...	Throughout the year.
Ditto ...	Azimganj ...	Dhulian ...	Do. ...	21st September to 3rd November 1894.
Twice daily ...	Berhampore	Azimganj ...	Do. ...	June 1894 to 31st March 1895.
Twice a week ...	<i>East Indian Railway Company.</i> Azimganj ... Dhulian ...		Both ...	9th July to 19th December 1894.
Daily ...	Berhampore	Azimganj ...	Do. ...	19th February to 10th March 1895.

146. The cost of the revenue establishment for the last five years is shown below:—

REVENUE
ESTABLISH-
MENT.

	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
Salary and commission of Collec- tors ...	Rs. 13,224	Rs. 13,210	Rs. 2,391	Rs. 12,644	Rs. 14,807
Accounts and office establishment	9,223	8,942	18,879	8,901	8,494
Travelling allowance	711	530	601	525	766
Contingencies	472	452	411	947	395
Total	23,630	23,134	22,282	23,017	24,462

There was an increase of Rs. 1,445 during the year due mainly to the higher pay and allowances drawn by the Officiating Toll Collector, Mr. Street (now Honorary Assistant Engineer).

147. The charges for maintenance and repairs (exclusive of establishment and tools and plants) for the last three years are detailed below:—

MAINTENANCE
AND REPAIRS.

PARTICULARS.	1892-93.	1893-94.	1894-95.
1	2	3	4
Re-opening lower entrance channel, Bhagi- rathi river ...	Rs. ...	Rs. 546	Rs. ...
Training works in river Bhagirathi ...	46,518	51,481	41,642
" " Bhyrub ...	3,174	4,318	3,989
" " Jalangi ...	3,287	6,430	7,034
" " Mathabhanga ...	3,062	2,060	2,717
" " ...	6,161	6,500	6,535
Sounding Nadia rivers ...	2,698	2,635	2,493
Maintaining and working divisional boats ...	3,863	3,394	4,178
Petty and other charges ...	...	...	...
Total	68,763	77,436	68,588

The original works executed or in progress during the year were the following:—

- (a) Remodelling the existing irrigation channel from Halara above the Kana Damodar stop-dam to Kalna. This work was commenced in 1893-94, and completed during the year under review at a total cost of Rs. 694, of which a sum of Rs. 179 only was expended during the year.
- (b) Combined bridge and regulator over the Kana Damodar at Chakdighi, to regulate the supply of water in the Kana Damodar for irrigation purposes, as well as to give the people of Chakdighi and of the neighbouring villages, the benefit of a substantial road bridge. The estimated cost of the work is Rs. 10,300 against which a sum of Rs. 8,229 was expended during the year.
- (c) A project for connecting, by two channels, an old blind water-course called Rankini Doho, 7,400 feet in length, with the Kana Damodar and Kana Nadi, and for providing a sluice at the mouth of the channel. The land was given free of cost by the promoters, and the work was completed at cost of Rs. 4,111 against the estimated amount of Rs. 5,169.

Besides the above, the following original works were also carried out during the year, but their cost was charged to the grant for maintenance of the canal.

(i) *Stop-dam at the mouth of the Channel No. 2 at Joojooty.*—To obviate the necessity of removing silt from the channel at an annual cost of about Rs. 6,000, and also to guard the sluice itself from the free action of the floods. The work was completed during the year at a cost of Rs. 7,791.

(ii) *Connecting channel between the Behula and the Gangoor Nadis.*—To facilitate the irrigation of a number of villages. The cost of the work was Rs. 734.

(iii) *Remodelling the existing channel from regulating sluice No. 3 at Chanchai to feed the Dhosi Nadi.*—The work was completed during the year at a cost of Rs. 716.

The expenditure on maintenance was only Rs. 25,303 against Rs. 35,619 of the previous year, the decrease being due to the small amount of silt which it was necessary to excavate from the canals. The receipts from water-rates on the other hand diminished from Rs. 35,943 in 1893-94 to Rs. 29,674 in the year under review. This was due to the cancelling of a number of leases on the banks of the Banka, the full length of which has not been brought under the operation of Irrigation Act, and to other causes.

153. The rainfall registered at Edilpore was 48.1 inches as compared with 67.48 inches in the previous year. But the rain was seasonable, and in the kharif season practically the same amount fell as in the corresponding months of 1893-94. The demand for canal water was therefore not large.

154. Regarding crop experiments the Superintending Engineer writes:—

“Owing to abundant rainfall, the year was not favourable for crop experiments. A few experiments were, however, made with paddy crops only, with the result that an acre of middle class land irrigated by canal water produced 25 maunds and 35 seers of paddy and 38 maunds 14½ seers of straw, whereas an acre of the same class of land not receiving the benefit of canal water, yielded only 20 maunds and 26 seers of paddy and 30 maunds and 5½ seers of straw.”

155. The total area leased during the year was 44,584 acres as compared with 47,925 acres in 1893-94, the falling off being due to the cancelling of leases of villages on the banks of the Banka Nala and Kana Damodar.

From the Eden canal alone 17,982 acres were irrigated in the Burdwan district, against 10,670 acres in the previous year, and 2,408 acres in the Hooghly district, against 1,069 acres in 1893-94. The increase was mainly due to the scanty rainfall, but as the fall was well distributed, a large portion of the leased area did not require canal water.

RAINFALL.

CROP EXPERIMENT.

AREAS LEASED AND IRRIGATED.

The areas irrigated by the Eden canal during the last five years are shown below:—

YEAR.	Long leases.	Annual leases.	One flushing beyond area commanded.	Unauthorised.	Total.	REMARKS.
1	2	3	4	5	6	7
	Acre.	Acre.		Acre.	Acre.	
1890-91	...	...	...	...	1,330	
1891-92	12,707	1,478	...	...	14,185	
1892-93	47,848	6,534	...	16,951	71,333	
1893-94	11,601	138	...	...	11,739	
1894-95	19,650	20	720	...	20,390	

These figures show that it is only in exceptional years that there is any demand for canal water.

DEMAND,
COLLECTION
AND BALANCE.

156. The water-rates assessed during the year amounted to Rs. 38,121 and the total demands, including the arrear balance from the previous year of Rs. 31,541, was Rs. 69,662. Against this amount Rs. 29,674 were collected during the year, Rs. 6,725 remitted, and Rs. 94 adjusted as excess recoveries. The balance left unrealized at the end of the year was Rs. 33,169.

REVENUE
ESTABLISH-
MENT.

157. The cost of the revenue establishment during the year was Rs. 4,052 against Rs. 2,378 in the previous year.

MISCELLA-
NEOUS
RECEIPTS.
PLANTATIONS.

158. The miscellaneous receipts amounted to Rs. 576 against Rs. 620 in 1893-94.

FLOODS.

159. The expenditure on plantations was Rs. 76 against Rs. 66 in 1893-94. The number of mahogany trees was increased from 334 to 360.

160. There were eight floods in the Damodar river during the year, the last of which, only 2 feet 5 inches below the highest recorded, occurred as late as 27th October 1894. No damage to the canal was done, though the flood which reached its maximum at Edilpore on the 8th July, was only 11 inches below the highest on record.

GAIGHATTA AND BUXI KHAL.

LENGTH OF
CHANNEL.

161. This channel, $7\frac{1}{2}$ miles in length, was taken over by the Public Works Department on the 1st April 1894. It was formerly an important trade route connecting the Damodar and Rupnarain rivers, but its importance diminished when the Midnapore canal was opened, and it was placed under the management of the Hooghly Road Cess Committee. After this, from want of proper attention it silted up so much that the traffic of even small boats was almost stopped. Subsequently, it came into the hands of the District Board of Howrah, and its annual income was then estimated at Rs. 2,810. Government was eventually asked to resume its management, as it continued to deteriorate, and its income in consequence to diminish.

RECEIPTS AND
EXPENDITURE.

An estimate, amounting to Rs. 31,471, was sanctioned for its re-excavation, of which Rs. 19,854 were spent during the year. The total expenditure on its maintenance amounted during the year to Rs. 27,269. The miscellaneous receipts were Rs. 820.

The right of collecting tolls for 1895-96 has been farmed out for Rs. 5,100.

MADHUBAN CANAL.

162. The expenditure incurred in maintaining this canal during the last five years is shown below:—

PARTICULARS.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Works ...	6,236	...	...	...	...
Maintenance ...	2,011	7,300	7,093	5,943	5,567
Establishment ...	3,293	3,003	2,813	2,438	2,405
Tools and plant ...	287	203	126	2	36
Total ...	11,827	10,506	10,032	8,383	8,008

There was no high flood in the Teur river during the year, and consequently the weir was much less damaged than usual during the flood season. A deep hole was scoured out below the apron in front of the under-sluices, and a portion of the apron itself was damaged.

No revenue is derived from the canal.

The miscellaneous receipts were Rs. 63 against Rs. 163 in 1893-94.

163. As the rainfall was very deficient up to the end of August, there was a large demand for canal water and a total area of 5,518 acres was irrigated. The areas of the different crops irrigated during the last four years were as follows:—

Nature of crop.	1891-92.	1892-93.	1893-94.	1894-95.
1	2	3	4	5
	Acres.	Acres.	Acres.	Acres.
Kharif ...	2,539	4,895	2,710	5,033
Rabi ...	495	150	46	117
Poppy ...	552	734	301	322
Hot weather crops ...	...	640	14	46
Total ...	3,586	6,400	3,071	5,518

164. The state of the plantations for the last two years is shown below:—

YEAR.	Trees over 12 feet.	Saplings between 4 and 12 feet.	Seedlings under 4 feet.	Total.
1	2	3	4	5
	No.	No.	No.	No.
1893-94 ...	188	182	286	656
1894-95 ...	247	246	202	695

GENERAL RESULTS.

NET REVENUE. 165. The net results of the year 1894-95, compared with those of the previous year, are shown below:—

PARTICULARS.	Receipts from all sources.	Working expenses, including refunds of revenue. (Direct and indirect charges.)	Profit or loss.
1	2	3	4
MAJOR IRRIGATION WORKS.	Rs.	Rs.	Rs.
1893-94	16,72,626	15,48,765	+1,23,861
1894-95	15,24,040	14,65,962	+58,078
MINOR WORKS AND NAVIGATION.			
<i>For which Capital and Revenue accounts are kept.</i>			
1893-94	5,25,348	3,93,423	+1,31,925
1894-95	5,10,870	3,81,607	+1,29,263
<i>For which only Revenue accounts are kept.</i>			
1893-94	1,71,252	1,46,658	+24,594
1894-95	1,42,518	1,69,186	-26,668
<i>For which neither Capital nor Revenue accounts are kept.</i>			
1893-94	36,687	59,377	-22,690
1894-95	30,313	60,823	-30,510
Total { 1893-94	24,05,913	21,48,223	+2,57,690
{ 1894-95	22,07,741	20,77,578	+1,30,163

The total receipts show a surplus of Rs. 73,741 over* the figures of the revised budget estimates, while the total expenditure was Rs. 1,18,358 less than that budgetted for.

EARNINGS. 166. Reckoned on earnings, that is on assessed revenue, as opposed to actual receipts, the net results of the Major Irrigation Works for the last two years were as follows:—

	Earnings.	Working expenses.	Profit or loss.
	Rs.	Rs.	Rs.
1893-94	14,77,532	15,48,765	(-)71,233
1894-95	13,85,719	14,65,962	(-)80,243

The revenue from Minor Works and Navigation is derived mainly from tollage receipts.

ARREARS. 167. Good progress was made during the year in the recovery of water-rates, and the reduction of the uncollected balance from Rs. 1,72,235 to Rs. 77,498, is very satisfactory.

The figures for the three canal systems are given below:—

CANALS.	Outstanding on 1st April 1894.	Demand of 1894-95.	Collected or adjusted.	Outstanding on 1st April 1895.
1	2	3	4	5
	Rs.	Rs.	Rs.	Rs.
Orissa	63,250	1,68,449	1,99,659	32,140
Midnapore	7,027	1,35,016	1,37,494	4,549
Sone	1,01,858	6,83,905	7,47,954	40,809
Total	1,72,235	9,90,370	10,85,107	77,498

CANAL.	DEMAND.			COLLECTIONS.			PERCENTAGE OF COLLECTIONS.		
	Arrear.	Current.	Total.	Arrear.	Current.	Total.	Arrear.	Current.	Total.
1	2	3	4	5	6	7	8	9	10
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1894-95.									
Orissa Canals	63,350	1,68,449	2,31,799	48,584	1,51,075	1,99,659	76.69	89.68	86.13
Midnapore Canal	7,027	1,35,016	1,42,043	6,332	1,31,162	1,37,494	94.11	97.14	96.79
Sone Canals	1,01,858	6,80,905	7,82,763	92,418	6,55,536	7,47,954	90.73	95.43	94.82
Total, 1894-95	1,72,235	9,09,370	11,02,605	1,47,334	9,37,773	10,85,107	85.54	94.68	93.33
1893-94.									
Orissa Canals	80,516	1,90,824	2,80,640	69,728	1,57,532	2,17,290	60.51	82.56	77.42
Midnapore Canal	45,567	1,30,111	1,78,678	47,349	1,24,302	1,71,651	97.40	95.53	96.77
Sone Canals	87,790	8,13,161	9,40,951	83,830	7,55,263	8,39,093	95.48	88.52	89.15
Total, 1893-94	2,26,173	11,74,096	14,00,269	1,90,917	10,37,117	12,58,034	84.41	88.33	87.70

168. A comparison is made in the following table between the approximate value of crops irrigated by Major Irrigation Works during the year and in 1893-94:—

VALUE OF CROPS.

CANALS.	1893-94.		1894-95.	
	Area irrigated.	Value of crops.	Area irrigated.	Value of crops.
1	2	3	4	5
	Acres.	Rs.	Acres.	Rs.
Orissa	103,526	32,05,156	122,561	37,78,130
Midnapore	85,763	26,35,305	70,116	25,22,086
Sone	336,776	1,22,10,325	317,134	1,21,71,797
Total	556,065	1,80,50,786	509,811	1,84,72,013

The average value per acre of the various crops irrigated has increased from Rs. 32.4 to Rs. 36.2.

169. The date fixed for the submission of revenue reports to the office of the Chief Engineer is the 5th September. The dates when the different reports were received are shown below:—

DATE FOR SUBMISSION OF REPORTS.

	In 1894.	In 1895.
Orissa Circle ... {	Deputy Collector's report through 8th September.	17th August.
	Commissioner.	
	Superintending Engineer's report ... 5th ditto.	5th September.
South-Western Circle {	Deputy Collector's report through 5th October.	6th August.
	Commissioner.	
	Superintending Engineer's report ... 6th September.	2nd September.
	Deputy Collector's report through 8th ditto.	4th ditto.
Sone Circle ... {	Commissioner.	
	Superintending Engineer's report ... 3rd ditto.	27th August.

All the reports were punctual.

GENERAL
RESULTS.

170. It was stated in the Revenue Report for 1893-94, that that year had been one of a disappointing character, as far as irrigation was concerned, by reason of the heavy and seasonable rainfall. These unfavourable conditions were even more marked during the year under review. The rainfall was quite as seasonable, and in many irrigation centres, far more abundant than in 1893-94. It is not therefore surprising to find that there was a general disinclination on the part of cultivators to enter into fresh leases, and that there was very little demand for canal water. The consequence has been an inevitable decline in the revenue derived from irrigation. The year has nevertheless presented many very satisfactory features. The efforts made in each circle to effect economy in maintenance have not been altogether in vain, and on the Sone Canals in particular, the unremitting energy displayed by Mr. Buckley, in order to attain this desirable object, deserves special commendation. In the Arrah division, the expenditure was the lowest on record, and for the whole circle there was an appreciable reduction in the working expenses. The improvement effected in the recovery of water-rates is another gratifying result of the year's work. Never before has the outstanding balance been so low as it was at the close of the year 1894-95, and while credit is due to the Deputy Collectors in charge of the Revenue divisions, it is the Superintending Engineers who are mainly responsible for this very satisfactory state of things. As regards Navigation, the history of the year suggests several questions for serious consideration. The difficulty of keeping the Nadia rivers open for navigation is becoming every year more pronounced and the work itself more costly. The tollage receipts are steadily declining and during the past year barely covered the working expenses. Unless a marked improvement takes place during the ensuing season, some modification in the system of controlling these channels will probably have to be made. On the Calcutta and Eastern Canals the traffic shows a steady development notwithstanding the competition of the Eastern Bengal Railway, but the tendency to employ flats in the place of the old type of country boat, seems to demand a revision of the measurement rules, which unduly favour the former.

TOURS AND
INSPECTIONS
OF OFFICERS.

171. The statement showing the number of days spent by the various officers on tour is a satisfactory record, and proves that in all cases works away from head-quarters received due attention. The inspections of divisional and subdivisional offices were nearly up to the standard in the Sone and South-Western Circles, but in Orissa only one divisional office was inspected. This may be partly accounted for by the fact that Mr. Connan who was in charge of the circle proceeded on furlough in December 1894. He was succeeded by Mr. Hughes.

A. D. MCARTHUR, COLONEL, R.E.,
Offg. Chief Engineer.

The 8th November 1895.

STATISTICAL TABLES.

Expenditure to end of 1894-95—										
Direct charges	Rs.	2,56,64,409	(c)	2,56,64,409	82,61,317	23,69,067	2,59,94,031	6,09,570	52,96,118	43,32,524
Indirect do.	"	5,78,653		5,78,653	1,84,152	59,114	9,15,568	27,183	62,414	1,04,939
Interest during construction	"	1,96,87,443		1,96,87,443	74,00,401	18,33,441	1,96,92,290	...	...	...
Total expenditure ...	"	4,59,30,505		4,59,30,505	1,58,45,870	42,66,622	4,66,01,889	6,96,753	53,58,522	41,37,463
Works as now sanctioned—										
Main canals, irrigation	Miles	198½		170½	53	29	192½	6½	47	102
Branch do., do.	"	110½		117½	19	Nil	148½	12½	Nil	Nil
Distributaries, including village channels	"	1,763		2,147	30489	Nil	878½	Nil	Nil	Nil
Of above—										
Navigable channels	Miles	202½		240½	73	29	192½	Nil	47(b)	102
Works completed at end of 1894-95—										
Main canals, irrigation	Miles	138½		170½	53	29	192½	6½	47	102
Branch do.	"	103		109½	19	Nil	148½	12½	Nil	Nil
Distributaries, including village channels	"	962½		1,091½	28319	Nil	878½	Nil	Nil	Nil
Of above—										
Navigable channels	Miles	166½		204½	73	29	192½	Nil	47	102

(a) Rupees 19,58,353 sanctioned for direct outlay on the Orissa project from 1st April 1890 to date of closing of construction estimate on 31st March 1895—vide Government of India, Public Works Department letter No. 3967, dated 8th December 1895. From 1890-91 to 1894-95 Rs. 17,19,078 have been expended out of this amount.

(b) and (c) The estimates for the Midnapore and Hiji Taluk Canals respectively having been withdrawn and closed, the figures shown are the totals of the old and fresh sanctions.

(d) Sanction to the construction estimate for the Some project expired on 31st March 1891. The expenditure from 1st April 1891 is chargeable against the schedule of works amounting to Rs. 7,65,797 for direct outlay and Rs. 16,306 for indirect outlay sanctioned in Government of India, Public Works Department letter No. 61, dated 6th January 1893 and against Rs. 6,483 sanctioned in Bengal Government letter No. 9157, dated 18th August 1893.

(e) There is no general sanctioned estimate for this project.

(f) Includes Rs. 8,69,000 expended from famine relief funds.

(g) Includes Rs. 49,001 expended against the estimate for Rs. 58,631 sanctioned in Bengal Government letter No. 5301, dated 27th July 1893, chargeable to the head 43—Minor Works and Navigation.

(h) This length is that of the Calcutta and new cut canals and not of the old canals and Tolly's Nala with 20 miles of Kasrapukur Khal. The Eastern Canals are 316 miles in length.

IB.

CAPITAL ACCOUNT OF IRRIGATION WORKS IN BENGAL FOR AND TO END OF 1894-95.

IRRIGATION WORKS.	DIRECT CHARGES (NET EXPENDITURE).						Indirect charges, exclusive of interest.	Total capital, excluding interest.	Simple interest.
	Works.	Establishment.	Tools and plant.	Suspense accounts.	Loss by exchange.	Total.			
1	2	3	4	5	6	7	8	9	10
<i>Major Irrigation Works.</i>									
Crissa project ...	Rs. 1,83,31,234 2,63,092 53,41,241	Rs. 45,69,401 55,114 19,18,019	Rs. 20,11,692 25,427 9,07,257	Rs. 1,46,299 -5,920	Rs. 2,68,070 94,800	Rs. 2,53,26,696 3,37,713 82,61,317	Rs. 5,70,887 7,766 1,84,152	Rs. 2,58,97,583 3,45,479 84,45,469	Rs. 1,86,67,621 10,19,822 70,69,948 3,30,453
Midnapore Canal	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hijili Tidal Canal	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sone Canals ...	Rs. 15,80,617 81,583 1,85,13,537 24,191	Rs. 5,33,249 18,739 51,64,605 5,551	Rs. 1,26,089 6,000 20,95,416 30,043	Rs. 1,29,353 -20,905	Rs. 22,790 52,240	Rs. 22,62,745 1,06,322 2,59,55,151 38,880	Rs. 56,491 2,623 9,14,791 777	Rs. 23,19,236 1,08,945 2,68,69,942 39,657	Rs. 17,45,805 92,636 1,86,53,306 10,38,984
Total ...	Rs. 4,37,66,629 3,68,866	Rs. 1,21,85,274 79,404	Rs. 51,40,454 61,470	Rs. 2,75,652 -26,825	Rs. 4,37,900	Rs. 6,18,07,909 4,82,915	Rs. 17,26,321 11,166	Rs. 6,35,32,230 4,94,081	Rs. 4,61,36,680 24,81,895
<i>Minor Works and Navigation.</i>									
Tirhut project ...	90,685	4,33,943	6,797	.....	.....	5,31,425	74,650	6,06,075	.....
Damodar "	44,477	94,864	4,800	.....	.....	1,45,141	16,239	1,61,380	.....
Saran Canals	-1,200	.....	.....	.....	.....	-1,200	.....	-1,200	.....
Orissa Coast Canal	4,79,448	1,64,170	25,952	.....	.....	6,69,570	27,183	6,96,753	.....
Calcutta and Eastern Canals.	33,11,662	7,39,778	2,06,088	28,054	.....	42,85,582	1,04,305	43,89,887	.....
...	19,684	4,528	20,823	1,907	.....	46,942	634	47,576	.....
...	45,16,941	3,94,819	3,68,463	14,819	.....	52,95,042	62,404	53,57,446	.....
...	834	.....	.....	242	.....	1,076	.....	1,076	.....
Total ...	Rs. 84,44,213 19,318	Rs. 18,27,574 4,528	Rs. 6,12,100 20,823	Rs. 42,873 2,149	Rs.	Rs. 1,09,26,760 46,818	Rs. 2,84,781 634	Rs. 1,12,11,541 47,452	Rs.
GRAND TOTAL ...	Rs. 5,22,10,842 3,88,184	Rs. 1,40,12,848 83,932	Rs. 57,52,554 82,293	Rs. 3,18,525 -24,676	Rs. 4,37,900	Rs. 7,27,32,669 5,29,733	Rs. 20,11,102 11,800	Rs. 7,47,43,771 5,41,533	Rs. 4,61,36,680 24,81,895

NOTE.

Receipts on capital account deducted from the following heads.

	Works.	Establishment.	Tools.	Total.		Works.	Establishment.	Tools.	Total.
	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
Orissa project ...	44,621	13,300	28,280	86,201	Damodar project ...	45,149	...	2,300	47,449
... { To end of previous year ...	36	...	...	36	... { During 1894-95 ...	1,200	...	...	1,200
Midnapore Canal ...	12,668	7,300	11,690	31,558	Saran Canals ...	498	...	...	498
... { To end of previous year ...	...	...	...	...	... { During 1894-95 ...	...	...	...	...
Hijili Tidal Canal ...	10	...	915	925	Orissa Coast Canal ...	3,028	260	5	3,293
... { To end of previous year ...	...	...	...	...	... { During 1894-95 ...	...	...	...	...
Sone Canals ...	2,08,094	32,711	1,35,640	3,74,445	Calcutta and Eastern Canals.	54,467	...	...	54,467
... { To end of previous year ...	45	...	...	...	... { During 1894-95 ...	...	...	...	...
Tirhut project ...	...	74	39	158		...	...	...	...
... { To end of previous year ...	...	...	...	...		...	...	...	...
... { During 1894-95 ...	...	...	...	...		...	...	...	...

I

STATEMENT SHOWING THE FINANCIAL RESULTS OF IRRIGATION

Realizations under main heads of

REVENUE (ACTUAL RECEIPTS).												
IRRIGATION WORKS.	IRRIGATION.			Navigation.	Plantations and lands.	Water-powers.	Miscellaneous.	Total.	Refund of revenue.	Gross receipts (less refunds).	REVENUE	
	Water-rates directly paid.	Share of land revenue.	Total.								Establish	
											Direction.	Execution.
1	2	3	4	5	6	7	8	9	10	11	12	13
MAJOR WORKS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Orissa project	1,93,550	...	1,93,550	1,15,201	2,514	...	21,807	3,33,072	727	3,32,345	5,870	48,063
Midnapore Canal	1,36,882	...	1,36,882	1,35,492	55	...	22,253	2,94,682	250	2,94,433	2,870	12,065
Hijili Tidal Canal ... ..	...	...	...	57,089	35	...	1,401	58,525	...	58,525	654	4,231
Sone project	7,43,243	...	7,43,243	58,598	1,671	1,715	32,234	8,37,761	2,927	8,34,834	5,780	1,10,084
Total Major Irrigation works.	10,73,675	...	10,73,675	3,66,680	4,275	1,715	77,695	15,24,040	3,913	15,20,127	15,194	1,75,363
MINOR WORKS AND NAVIGATION.												
Works for which capital and revenue accounts are kept.												
Saran project	938	...	938	...	12	...	432	1,392	3,182	—1,800	26	198
Orissa Coast Canal ... ..	...	...	...	64,094	...	...	1,937	66,031	91	65,940	1,318	8,535
Calcutta and Eastern Canals.	...	...	...	4,30,769	...	...	12,688	4,43,457	454	4,43,003	4,166	23,718
Total ...	938	...	938	4,94,863	12	...	15,057	5,10,870	3,727	5,07,143	5,510	32,451
Works for which only revenue accounts are kept.												
Nadia Rivers ... ..	...	...	...	1,41,419	...	...	279	1,41,698	...	1,41,698	1,715	11,486
Gaighatta and Buxi Khals	...	...	...	...	...	...	820	820	...	820	406	3,211
Total ...	...	...	...	1,41,419	...	...	1,099	1,42,518	...	1,42,518	2,211	14,697
Works for which neither capital nor revenue accounts are kept.												
Eden Canal	29,674	...	29,674	...	...	...	576	30,250	50	30,200	...	...
Total Minor works and Navigation.	30,612	...	30,612	6,36,282	12	...	16,732	6,83,638	3,777	6,79,861	7,721	47,148
GRAND TOTAL ...	11,04,287	...	11,04,287	10,02,962	4,287	1,715	94,427	22,07,678	7,690	21,99,988	22,915	2,22,511

10) Irrigation Revenue Officers specially

(a) Irrigation Revenue Officers specially
 (b) Rupees 4,052 was expended during the year on account of the temporary establishment sanctioned

IIC.

STATEMENT SHOWING THE FINANCIAL RESULTS OF IRRIGATION WORKS IN BENGAL
FOR 1894-95, BASED ON ACTUAL RECEIPTS.*Principal results of operations for the year ended 31st March 1895.*

IRRIGATION WORKS.	Direct and indirect outlay to end of 1894-95.	Gross receipts, direct and indirect, from all sources (less refunds).	Working expenses, direct and indirect.	Net revenue (excluding charges for interest).	Percentage of net revenue on capital outlay to end of the year.	Interest at 4 per cent. on direct capital outlay at commencement of year and at 2 per cent. on outlay during the year.	SURPLUS REVENUE AFTER PAYING INTEREST ON DIRECT CAPITAL OUTLAY.		EXCESS CHARGES, INCLUDING INTEREST ON DIRECT CAPITAL OUTLAY.	
							Amount.	Percentage on total sum at charge.	Amount.	Percentage on total sum at charge.
1	2	3	4	5	6	7	8	9	10	11
MAJOR IRRIGATION WORKS.	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	
<i>In operation.</i>										
Hijili tidal canal ...	24,28,181	58,525	47,426	11,099	46	92,636	...	...	81,537	336
<i>In progress.</i>										
Orissa project ...	2,62,43,062	3,32,345	4,83,320	—1,50,975	deficit 58	10,19,822	...	...	11,70,797	446
Midnapore canal ...	84,45,469	2,91,423	2,24,564	69,859	83	3,30,453	...	...	2,60,594	309
Sone project ...	2,69,09,599	8,34,834	7,06,739	1,28,095	48	10,38,984	...	...	9,10,889	338
Total ...	6,40,26,311	15,20,127	14,62,049	58,078	09	24,81,895	...	...	24,23,817	379
MINOR WORKS AND NAVIGATION.										
<i>In operation.</i>										
Saran project ...	6,96,753	—1,800	1,542	—3,342	deficit 48	...	...	...	...	...
Calcutta and Eastern canals.	53,58,522	4,43,003	2,89,267	1,53,736	286	...	...	...	...	...
Nadia rivers ...	...	1,41,698	1,40,879	819	...	...	...	...	...	...
<i>In progress.</i>										
Orissa Coast canal ...	44,37,463	65,910	87,071	—21,131	deficit 47	...	...	...	...	...
Ghaighatta and Buxi Khals.	...	820	28,307	—27,487	...	...	...	...	...	...
<i>Abandoned or held in abeyance.</i>										
Tirhut project ...	6,06,075	...	...	...	...	...	...	...	...	...
Damodar project ..	1,60,180	...	...	...	...	...	...	...	...	...
Total ...	1,12,58,993	6,49,661	5,47,066	1,02,595	91	...	...	...	...	...

IIIC.

DEMANDS AND REALIZATIONS DURING THE YEAR 1894-95.

IRRIGATION WORKS.		Balance of demand unrealized at com- mencement of year.	Demands of the year.	Total.	Deduct remissions not including cash refunds.	Net total.	Deduct amount un- realized at end of the year.	Actual receipts of the year.
1	2	3	4	5	6	7	8	
<i>Major Irrigation Works.</i>		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Orissa project ...	63,350	3,07,971	3,71,321	6,109	3,65,212	32,140	3,33,072	
Midnapore Canal ...	7,027	2,92,816	2,99,843	612	2,99,231	4,549	2,94,682	
Hijili Tidal Canal ...	...	58,525	58,525	...	58,525	...	58,525	
Sone project ...	1,01,858	7,80,803	8,82,661	4,091	8,78,570	40,809	8,37,761	
Total ...	1,72,235	14,40,115	16,12,350	10,812	16,01,538	77,498	15,24,040	
<i>Minor Works and Navigation.</i>		(a)	(a)	(a)	(a)	(a)	(a)	(a)
Saran project ...	6,459	444	6,903	...	6,903	5,521	1,382	
Orissa Coast Canal ...	...	66,031	66,031	...	66,031	...	66,031	
Calcutta and Eastern Canals ...	...	4,43,457	4,43,457	...	4,43,457	...	4,43,457	
Nadia Rivers ...	...	1,41,698	1,41,698	...	1,41,698	...	1,41,698	
Gaighatta and Buxi Khals ...	...	820	820	...	820	...	820	
Eden Canal ...	31,541	38,603	70,144	6,725	63,419	33,169	30,250	
Total ...	38,000	6,91,053	7,29,053	6,725	7,22,328	38,690	6,83,633	
GRAND TOTAL	2,10,235	21,31,168	23,41,403	17,537	23,23,866	1,16,188	22,07,678	

NOTE.—Refunds of revenue have not been deducted from actual receipts of the year.
 (a) These figures have been supplied by Examiner. They do not agree with those given by Superintending Engineer in his Revenue Report of the Saran Canals for 1894-95.

IV

STATEMENT SHOWING THE FINANCIAL RESULTS OF IRRIGATION WORKS IN

Principal results of operations for

IRRIGATION WORKS.	Capital out- lay (direct and indirect) to end of the year.	REVENUE ASSESSED				
		DIRECT ASSESSED				
		Occupier's rate (water rates.)	Owner's rate.	Plantations.	Water-power.	Navigation.
1	2	3	4	5	6	7
MAJOR IRRIGATION WORKS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Orissa project	2,62,43,062	1,76,202	.....	2,514	.....	1,17,608
Midnapore canal	84,45,469	1,04,875	.....	55	.....	1,31,078
Hijili tidal canal	24,28,181	.....	.....	35	.....	57,089
Sone project	2,69,09,599	6,56,332	.....	1,671	1,715	58,850
Total major irrigation works ...	6,40,26,311	9,37,409	.....	4,275	1,715	3,64,625
MINOR WORKS AND NAVIGATION.						
<i>Works for which Capital and Revenue accounts are kept.</i>						
Saran project	6,96,753	.....	.....	12	.....	.....
Orissa Coast canal	44,57,463	.....	.....	.....	.....	64,094
Calcutta and Eastern canals ...	53,58,522	.....	.....	.....	.....	4,30,769
Total	1,05,12,738	.....	.....	12	.....	4,94,863
<i>Works for which only Revenue accounts are kept.</i>						
Nadia rivers ... ..	.....	.....	.....	.....	.....	1,41,419
Gaighatta and Buxi Khals ...	.....	.....	.....	.....	.....	.....
Total ... ..	.....	.....	.....	.....	.....	1,41,419
<i>Works for which neither Capital nor Revenue accounts are kept.</i>						
Eden canal ... ..	.....	38,121	.....	.....	.....	.....
Total minor works & navigation	1,05,12,738	38,121	.....	12	.....	6,36,282

N.B.—The assessed revenue means the revenue assessed on the irrigation of the year independently of whether the demand statements were

C.

BENGAL FOR THE YEAR ENDED 1894-95, BASED ON ASSESSMENTS OF THE YEAR.
the year ended 31st March 1895.

DURING THE YEAR.

REVENUE.		Refunds of re-venue.	Gross assessed re-venue,—less re-funds.	Indirect revenue—Land revenue due to operations of canals.	Grand total.	Working expenses, direct and indirect.	Net assessed revenue of the year.	Percentage on capital outlay to end of the year.
Miscellaneous.	Total.							
8	9	10	11	12	13	14	15	16
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
21,807	3,18,131	727	3,17,404	.....	3,17,404	4,83,320	(—)1,65,916	·63 deficit.
22,253	2,58,261	259	2,58,002	.....	2,58,002	2,24,564	33,438	·39
1,401	58,525	.....	58,525	.....	58,525	47,426	11,099	·46
32,234	7,50,802	2,927	7,47,875	.....	7,47,875	7,06,739	41,136	·15
77,695	13,85,719	3,913	13,81,806	.....	13,81,806	14,62,049	(—)80,243	·12 deficit.
432	444	3,182	(—)2,738	.....	(—)2,738	1,542	(—)4,280	·61 deficit.
1,937	66,031	91	65,940	.....	65,940	87,071	(—)21,131	·47 deficit.
12,688	4,43,457	454	4,43,003	.....	4,43,003	2,89,267	1,53,736	2·86
15,057	5,09,932	3,727	5,06,205	.....	5,06,205	3,57,880	1,48,325	1·41
279	1,41,698	.....	1,41,698	.....	1,41,698	1,40,879	819	.....
820	820	.....	820	.....	820	28,307	(—)27,487	.....
1,099	1,42,518	.....	1,42,518	.....	1,42,518	1,69,186	(—)26,668	.....
576	38,697	50	38,647	.....	38,647	52,738	(—)14,091	.....
16,732	6,91,147	3,777	6,87,370	.....	6,87,370	5,79,804	1,07,566	.....

completed within the year or not. The actual amount of the demand statements issued during the year is given in column 3 of Table IIIC.

III.

DESCRIPTION AND QUANTITIES OF GOODS, &c., CARRIED ON CANALS IN BENGAL DURING THE YEAR 1894-95.

[illegible]

IID—concluded.

DESCRIPTION AND QUANTITIES OF GOODS, &c., CARRIED ON CANALS IN BENGAL DURING THE YEAR 1894-95.

[illegible]

No. 1F.

STATEMENT SHOWING THE WATER-RATES PER ACRE IN FORCE ON
CANALS IN BENGAL DURING 1894-95.

CANALS.	Description of leases and crops.	OCCUPIER'S RATES PER ACRE.	
		Flow irrigation.	Lift irrigation.
1	2	3	4

ORISSA CIRCLE.

		Rs. A. P.		Rs. A. P.	
ORISSA CANALS ...	I.—For the whole irrigable or rice cultivated area of any village, if application is made for a lease of five years ...	1	8	0	1 0 0
	<i>For the Rice Crop.</i>				
	II.—For any fractional area of a village or for other term ...	3	0	0	2 0 0
	<i>For Cold Weather Crops.</i>				
	III.—Dalwa rice ...	1	8	0	1 0 0
	IV.—For cotton, tobacco, huldi, ginger, wheat, vegetable, indigo and all garden produce grown in villages the rice-lands of which are leased under Rule I ...	1	0	0	0 10 0
	V.—For the above produce when grown in villages the rice-lands of which are not leased under Rule I ...	2	0	0	1 8 0
	VI.—For linseed, oil-seeds, dāl and all pulses grown in villages the rice-lands of which are leased under Rule I ...	0	8	0	0 5 0
	VII.—For the above produce when grown in villages the rice-lands of which are not leased under Rule I ...	1	0	0	0 10 0
	<i>For Perennial Crops.</i>				
	VIII.—For sugarcane ...	6	0	0	4 0 0
	IX.—The charge for filling tanks is Re. 1 per 10,000 cubic feet of water used.				

SOUTH-WESTERN CIRCLE.

For the Rice Crop.

For water supplied between June and November—whether by flow or lift—

		Rs. A. P.	
MIDNAPORE CANAL.	For five year leases ...	1	8 0 per acre for each season.
	For one year lease or for water supplied on a provisional license for which a permit for a term of years is not subsequently issued ...	3	0 0 per acre.
	Provided that the leases, whether new or renewals, required for shorter terms than five years in order to develop the system of blocks shall be charged ...	1	8 0 per acre.
	Otherwise, in addition to the rate of Re. 1-8 an extra rate of 12 annas per acre shall, in the first year only, be charged on leases for less than five and more than one year		
	<i>For Winter Crops.</i>		
	For supply of water, when available ...	2	8 0 per acre per season.
	For unauthorized use of canal water ...	5	0 0 per acre or such less rate as may be sanctioned by the Deputy Collector.

SOUTH-WESTERN CIRCLE—concluded.

For supply of water for manufacturing or other purposes Re. 1 to be charged for each 10,000 cubic feet or part of 10,000 cubic feet supplied.

The same charge will be made if water is taken into a tank without authority or used in an unauthorized manner.

Tanks may be filled with canal water without charge wherever water can be made available without injury to the cultivation dependent on any canal under certain conditions noted in Rule 31.

		Per bigha.		
		Rs.	A.	P.
EDEN CANAL.	I.—Long leases entered into before the 1st October 1895, per season ...	0	4	0
	II.—Long leases entered into after the 1st January 1896, per season ...	0	5	0
	III.—Extra charge for long leases entered into during the irrigation season, i.e. between 1st June and 1st October in any year, in addition to the rates mentioned in I and II, for the first year only ...	0	2	0
	IV.—Season leases, kharif, per season ...	0	8	0
	V.—Single waterings outside the area commanded in each watering ...	0	4	0
	VI.—Season leases, rabi, sugarcane and potatoes and other crops ...	1	0	0
	Boro rice, per season ...	0	8	0
VII.—Unauthorized irrigation—*				
Kharif season ...		1	0	0
Rabi season ...		2	0	0

{ or such lower rates as may be fixed by the Canal officer.

* No rates shall be imposed on lands irrigated without permits beyond the area shown as commanded on the map referred in Rule 1.

SONE CIRCLE.

SONE CANALS.

The following schedule is in force with reference to long leases taken in, and previous to the year 1891-92:—

Five-year Leases.

CLASS.	Nature of crop.	IRRIGATION PER—		
		Cottah.	Bigha.	Acre.
1	2	3	4	5
		Rs. A. P.	Rs. A. P.	Rs. A. P.
	For all crops ...	0 1 0	1 4 0	2 0 0

The following schedules are in force with reference to all leases taken during 1894-95:—

SCHEDULE No. I.

Leases for a term of years.

FOR WATER SUPPLIED BETWEEN THE 25TH OF JUNE OF ONE YEAR AND THE 25TH MARCH OF THE NEXT.	FLOW OR LIFT.		
	Rate per acre.	Rate per bigha.	Rate per tenth of a bigha.
1	2	3	4
	Rs. A. P.	Rs. A. P.	Rs. A. P.
For leases for seven years—all crops ...	2 0 0	1 4 0	0 2 0
" for three years " ...	2 8 0	1 9 0	0 2 6

SCHEDULE No. II.

Season Leases (Kharif).

NAME OF CROP.	Date of supply.	FLOW OR LIFT.		
		Rate per acre.	Rate per bigha.	Rate per tenth of a bigha.
1	2	3	4	5
Rice and sugarcane for kharif season only	25th June to 25th October.	Rs. A. P. 3 0 0	Rs. A. P. 1 14 0	Rs. A. P. 0 3 0
Bhadai, serha rice or any other crops ...	25th June to 15th October.	2 8 0	1 9 0	0 2 6

SCHEDULE No. III.

Season Leases (Rabi).

TIME OF SUPPLY.	Locality.	FLOW.			LIFT.		
		Per acre.	Per bigha.	Per tenth of a bigha.	Per acre.	Per bigha.	Per tenth of a bigha.
1	2	3	4	5	6	7	8
15th October to 25th March.	Water supplied for all crops, including sugarcane, from distributaries open for kharif irrigation.	Rs. A. P. 2 0 0	Rs. A. P. 1 4 0	Rs. A. P. 0 2 0	Rs. A. P. 1 8 0	Rs. A. P. 0 15 0	Rs. A. P. 0 1 6
25th October to 25th March.	Water supplied for all crops, including sugarcane, from distributaries or parts of distributaries from which rabi irrigation only is allowed.	1 8 0	0 15 0	0 1 6	1 0 0	0 10 0	0 1 0

SCHEDULE No. IV.

Season Leases (Hot-Weather).

	FLOW OR LIFT.		
	Per acre.	Per bigha.	Per tenth of a bigha.
1	2	3	4
For water supplied between the 25th March and the 25th June, or at the option of the applicant, between the 25th of February and the 25th of May, for all crops.	Rs. A. P. 4 0 0	Rs. A. P. 2 8 0	Rs. A. P. 0 4 0
When water can only be supplied for a part of the season, for each watering.	1 8 0	0 15 0	0 1 6

In the case of charges under schedules I to IV, any smaller area than one-tenth of a bigha will be charged as one-tenth. The bigha contains 27,225 square feet.

SCHEDULE No. V.

For Water supplied by Volume in the Kharif Season.

For water supplied between the 1st of September and the 31st October Rs. 4 for a calculated discharge of one cubic foot per second for twelve hours. For less than a cubic foot per second or less than twelve hours a proportionate charge shall be made, but a fraction of less than one-sixteenth shall be charged as one-sixteenth.

SCHEDULE No. VI.

For Water supplied by Volume to fill Aharas.

For water supplied between the 1st of November and the 25th of March, Re. 1 for a calculated discharge of one cubic foot per second for twelve hours. For less than a cubic foot per second or less than twelve hours a proportionate charge shall be made, but a fraction of less than one-sixteenth shall be charged as one-sixteenth.

SARAN CANALS.

	Per acre.
	Rs. A. P.
For water supplied between the 1st April and 15th June	... 2 8 0
Ditto from 15th June to 30th October	... 1 8 0
Ditto from 1st November to 31st March	... 1 0 0

For water taken without previous application or agreement a further rate of Re. 1 per acre may be charged in addition to the rates noted above.

List of Officers in charge of Irrigation Circles and Divisions during the year 1894-95.

Circle or Division.	Name of Officer.	Period of charge.
1	2	3

SECRETARIAT.

Secretary, Irrigation Department.	Mr. C. W. Odling	...	From 1st April 1894 to 11th March 1895. [On privilege leave from 1st April to 2nd May 1894.]
Ditto	Lieut.-Col. A. D. McArthur,	"	1st April to 1st May 1894. (Officiating.)
Ditto	R.E. Ditto	...	12th March to 31st March 1895. (Officiating.)
Under-Secretary, Irrigation Department.	Mr. G. C. Maconchy	...	1st April 1894 to 31st July 1894.
Ditto	" K. H. Stephen	...	1st August 1894 to 28th February 1895.
Ditto	" O. C. Lees	...	1st to 31st March 1895.

SUPERINTENDING ENGINEERS IN CHARGE OF CIRCLES.

South-Western Circle	...	Lieut.-Col. A. D. McArthur,	...	From 2nd May 1894 to 11th March 1895.
Ditto	...	R.E. Mr. D. B. Horn	...	1st April to 1st May 1894. (Officiating.)
Ditto	...	Ditto	...	12th to 31st March 1895 (officiating), with the rank of Superintending Engineer, 3rd class, temporary.
Orissa Circle	...	Mr. W. Connan	...	1st April 1894 to 9th December 1894.
Ditto	...	" A. J. Hughes	...	10th December 1894 to 17th March 1895.
Ditto	...	" W. A. Inglis	...	18th to 31st March 1895.
Sone Circle	...	" R. B. Buckley	...	1st April 1894 to 31st March 1895.

EXECUTIVE ENGINEERS IN CHARGE OF DIVISIONS.

SOUTH-WESTERN CIRCLE.

Nadia Rivers Division	...	Mr. M. J. J. P. Norman	...	From 1st April 1894 to 31st March 1895.
Cossye Division	...	" H. Barlow	...	1st April 1894 to 31st March 1895.
Northern Drainage and Embankment Division.	...	" T. M. L. Thompson	...	1st April 1894 to 31st March 1895.
Circular and Eastern Canals Division.	...	" J. W. Fox, Honorary Assistant Engineer.	...	1st April 1894 to 8th November 1894. (Officiating.)
Ditto	...	Ditto	...	12th to 31st March 1895. (Officiating.)
Ditto	...	" D. B. Horn	...	9th November 1894 to 11th March 1895.
Balasore Division	...	" A. Hayes	...	1st April 1894 to 10th August 1894.
Ditto	...	" P. J. Jacobs	...	11th August 1894 to 19th October 1894.
Ditto	...	" C. A. White	...	20th October 1894 to 31st March 1895.

ORISSA CIRCLE.

Acquapada-Jajpur Division	...	Mr. M. H. Arnott	...	From 1st April 1894 to 31st March 1895.
Brahmini-Byturni Division	...	" R. E. Carter	...	1st April 1894 to 31st March 1895.
Mananadi Division	...	" T. H. Clowes	...	1st April 1894 to 31st March 1895.

SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 18, 1895. 3017

List of Officers in charge of Irrigation Circles and Divisions during the year 1894-95—conold.

Circle or Division.	Name of Officer.	Period of charge.
1	2	3

EXECUTIVE ENGINEERS IN CHARGE OF DIVISIONS—conold.

SONE CIRCLE.

Arrah Division	... Mr. C. H. DeMello	... From 1st to 9th April 1894 and from 10th May 1894 to 31st March 1895.
Ditto	... " F. F. A Cowley	... " 10th April to 9th May 1894.
Buxar Division	... " T. Butler	... " 1st April 1894 to 31st March 1895.
Eastern Sone Division	... " A. S. Thomson	... " 1st April 1894 to 8th March 1895.
Ditto	... " G. L. Searight	... " 9th to 31st March 1895.
Gandak Division	... " H. H. Green	... " 1st April 1894 to 31st March 1895.
Dehri Workshops Division	... " J. R. Swinden	... " 1st to 30th April 1894.
Ditto	... " H. E. Williamson (Supervisor).	... " 1st to 15th May 1894.
Ditto	... " G. C. Stawell	... " 16th May 1894 to 31st March 1895.

CANAL REVENUE OFFICERS.

Deputy Collector, Revenue Division, Sone Canals.	Maulvi S. M. Nasiruddin	... From 1st April 1894 to 31st March 1895.
Deputy Collector, Revenue Division, Orissa Canals.	Babu Jugdum Sahai	... " 1st April 1894 to 11th November 1894 and from 2nd January 1895 to 31st March 1895.
Deputy Collector, Revenue Division, Orissa Canal.	" Gopal Bullav Mitter	... " 12th November 1894 to 1st January 1895.
Deputy Collector, Revenue Division, Midnapore Canals.	" Raj Mohun Chuckerbutty.	... " 1st April 1894 to 31st March 1895.
Supervisor, Calcutta Canals.	Mr. W. R. Cooksey	... " 1st April 1894 to 31st March 1895.

NAME.	Circle or Division.	NUMBER OF DAYS—		REMARKS.
		On duty.	On tour.	
1	2	3	4	5
<i>Assistant Engineers—concluded.</i>				
Mr. J. Zorab	Balasore	350	161	On 15 days' privilege leave.
" A. H. C. MacCarthy	Cossye	329	145	On 36 days' privilege leave.
" J. W. Foy	Circular and Eastern Canals.	123	46	
Rai Bahadur Bama Churn Pramanic	Northern Drainage and Embankment.	365	265	
<i>Sub-Engineers.</i>				
Rai Sahib Satcowry Chatterjee	Eastern Sone	365	49	Principal works lie at head-quarters.
Babu Chunder Bhusan Dutt	Gandak	365	50	Ditto ditto.
" Tarini Charan Sircar	Dehri Workshops	365	127	Ditto ditto.
Mr. H. E. Williamson	Ditto	365	31	Ditto ditto.
Rai Prosono Kumar Pal	Acquapadda-Jajpur	365	270	
Mr. J. J. Atkinson	Balasore	319	72	On 46 days' privilege leave.
Babu Gopal Chunder Ghose	Cossye	365	193	
" Rakhal Das Roy	Circular and Eastern Canals.	350	124	
Rai Sahib Gopal Chunder Daw	Northern Drainage and Embankment.	365	235	
Mr. S. Street	Jangipur Toll Office	365	...	
Babu Rakhal Das Chatterjee	Nadia Rivers	365	142	
<i>Supervisors.</i>				
Babu Kanti Chunder Banerjee	Arrah	214	181	On 3 months' privilege leave. Transferred to the Eastern Sone Division, which he joined on the 10th November 1894. Retransferred to the Arrah Division, which he joined on the 20th February 1895.
Mr. C. M. S. Rorke	Gandak	365	119	
Babu Ashutosh Singh	Do.	83	15	Furlough for 10 months from 23rd June 1894.
" Rudra Prosono Singh	Do.	275	67	On privilege leave for 71 days.
" Mohendra Nath Sircar	Arrah	334	242	On 31 days' privilege leave.
" Harri Churn Mukerjee	Mahanadi	365	280	
Mr. C. A. Marchant	Ditto	365	34	Workshop Foreman.
Babu Pran Krishna Sen	Acquapadda-Jajpur	338	206	On privilege leave for 27 days.
" Suresh Chunder Gangooly	Balasore	351	198	On privilege leave for 14 days.
" Dhakhina Ranjan Mukerjee	Circular and Eastern Canals.	365	243	
" Ashutosh Mitter	Ditto	352	210	
" Jogendra Lal Chatterjee	Ditto	277	140	Died on the 18th January 1895.
" Lokenath Mitter	Nadia Rivers	365	109	
<i>Overseers.</i>				
Babu Satya Ramjan Khastagir	Dehri Workshops	115	97	Joined the Division on the 27th November 1894.
" Kali Kumar Roy	Eastern Sone	365	101	Principal works lie at head-quarters.
" Rajendra Lal Sircar	Ditto	68	50	
" Rajendra Lal Sircar	Arrah	286	246	
" Basant Kamal Dass	Buxar	153	49	Sick leave for 5 months from 1st September 1894, after which his services were dispensed with.
" Jagat Narain	Gandak	26	13	Joined the Division on the 1st June 1894.
" Khirode Chunder Mookerjee	Dehri Workshops	288	232	On 30 days' privilege leave.
" Aghore Chunder Chatterjee	Ditto	90	61	Joined the Division on the 18th December 1894.
" Bhusan Chunder Banerjee	Mahanadi	365	51	Principal works lie at head-quarters.
" Upendranath Mukerjee	Ditto	345	285	On 20 days' leave.
" Soshi Bhusan Mozumdar	Ditto	365	265	
" Surendranath Barat	Brahmini-Byturni	365	187	
" Bankim Krishna Ghose	Ditto	365	189	
" Troylucko Nath Mozumdar	Ditto	365	301	
" Saroda Churu Mitra	Ditto	365	223	
" Banku Behary Mookerjee	Acquapadda-Jajpur	365	24	Principal works lie at head-quarters.
" Krishnadhon Banerjee	Ditto	275	207	On 90 days' privilege leave.
Mr. A. E. Hefferman	Balasore	365	126	
Babu Kirty Bas Maithi	Cossye	365	46	
" Mohit Kumar Chatterjee	Do.	365	62	
" Roma Nath Sirkar	Do.	365	123	
" Rajendro Nath Mookerjee	Circular and Eastern Canals.	122	63	Joined the Division on the 21st November 1894.
Mr. P. O. Wight	Ditto	226	226	Transferred to the Northern Drainage and Embankment Division, which he joined on the 13th December 1894. On privilege leave for 2 months from the 3rd January 1895. Transferred to the Calcutta Workshops Division on the expiration of his leave.
Babu Mohiny Mohan Lahiri	Northern Drainage and Embankment.	220	106	On 45 days' privilege leave.
Khetter Mohan Palit	Ditto	335	...	On 30 days' privilege leave.
Akhoy Krishna Bose	Nadia Rivers	307	175	On 58 days' privilege leave.

Statement showing Inspections of Offices by Superintending and Executive Engineers during the year 1894-95.

NAME OF OFFICER.	DIVISIONAL OFFICES.		SUBDIVISIONAL OFFICES.		REMARKS.
	Number in circle.	Number inspected during year.	Number in circle.	Number inspected during year.	
1	2	3	4	5	6
<i>Superintending Engineers.</i>					
W. Connan, Superintending Engineer, Orissa Circle.	4*	1	16	†6	* Inclusive of Revenue Division.
R. B. Buckley, Superintending Engineer, Sone Circle.	6*	5	27	3	† Of these, 3 inspected by Mr. Hughes.
Lieutenant-Colonel A. D. McArthur, Superintending Engineer, South-Western Circle.	6*	6	26	1	
<i>Executive Engineers.</i>					
T. H. Clowes, Executive Engineer, Mahanadi.	8	...	
R. E. Carter, Executive Engineer, Brahmani-Byturni.	5	...	
M. H. Arnott, Executive Engineer, Aquapada.	3	...	
C. H. DeMello, Executive Engineer, Arrah.	6	...	
T. Butler, Buxar	5	...	
G. C. Stawell, Dehri Works	5	...	
A. S. Thomson, Eastern Sone	6	...	
H. H. Green, Gandak	5	...	
H. Burrow, Cossye	6	3	
A. Hayes, Balasore	5	4	
M. J. J. P. Norman, Nadia Rivers	6	5	
T. M. L. Thompson, Northern Drainage and Embankment.	4	3	
J. W. Fox, Circular Canals	5	4	

RESOLUTION ON THE REPORTS OF THE PROGRESS OF SURVEYS
AND SETTLEMENTS DURING THE YEAR ENDING 30TH
SEPTEMBER 1895.

REVENUE DEPARTMENT—LAND REVENUE.

Calcutta, the 14th December 1895.

RESOLUTION—No. 5421.

READ—

Letter No. 1244A., dated the 6th December 1895, from the Board of Revenue, submitting the Reports of the Director of the Department of Land Records and Agriculture on Settlements and Land Records, and the Deputy Surveyor-General on Surveys, in Bengal, for the year ending the 30th September 1895.

THE Lieutenant-Governor is glad to be able to review the Settlement and Survey Reports for the survey year ending 30th September, 1895, before his term of office expires.

The Reports.

He has to acknowledge the punctuality with which, in accordance with his wishes, as expressed in the Resolution of the 13th April 1895 on the Reports for 1893-94, Mr. Macpherson and Colonel Sandeman have collected the materials from the officers under them and submitted their reports, and he is obliged to the Board for sending them on to Government with their review so expeditiously. His Honour trusts that the Settlement Officers will find it a relief to have done with their accounts of the work of a previous year before embarking on the cold-weather field operations of the current year; and that in future the same commendable promptness may be observed by all concerned. The reports are not so long in either case as in the previous year: chiefly, because there have been fewer points of principle for discussion and record. But they omit nothing which deserves to be included for comment and future reference.

2. Colonel J. E. Sandeman, I.S.C., was Director of Bengal Surveys throughout the year, but was absent on leave from 19th April to the end of September 1895, during which

Charge and inspection.

time the current duties of his office were conducted by Captains Fleming and Hodgson, under the orders of Colonel Wilkins, Officiating Deputy Surveyor-General. Since 25th March, Colonel Sandeman has been Deputy Surveyor-General, and his direct connection with Bengal surveys has ceased. He was on tour for 93 days during the first six months of the year, inspecting the work in progress in Bihar, Orissa, the Darjeeling Terai, and the Kolhan. Mr. W. C. Macpherson, C.S., was in charge of the office of Director of Land Records and Agriculture throughout the year, and altogether spent 148 days on tour, distributed over nine months of the year. He visited all the settlements of importance under his charge, and attended several conferences, besides being much engaged with the Land Records Maintenance Act, III (B.C.) of 1895.

The Lieutenant-Governor inspected the settlement work in North Bihar and Gaya in November 1894, the settlement office at Muzaffarpur in August 1895, and discussed the Orissa settlement work at Chandbali in July 1895. The Member of the Board of Revenue in charge of the Department was unable to inspect any of the major settlements during the year.

3. During the year the Board's Survey and Settlement Manuals of 1888 were revised and amalgamated into one

Survey and Settlement Manuals.

work by Mr. E. W. Collin, C.S., on special duty. Short rules for petty surveys and settlements were also drawn up by the same officer. The revised Manual has been issued for the guidance of Settlement Officers in the season now commencing, has been reviewed by the Board, and is now being finally issued with the approval of Government.

4. Colonel Sandeman has brought together in a convenient form (para-graph 36) the outturn in square miles year by year, and the total outturn for five years, of all kinds of survey, including record-writing. The whole area traversed by the theodolite (on which the survey of details on various scales is based) has covered 18,822½ square miles, *i.e.*, about one-eighth of the area of the whole Province. The figures of the detail survey work are as follows:—cadastral survey with records, 12,159½ square miles; cadastral survey without records, 1,034 square miles; skeleton boundary survey, 1,752 square miles; city survey, 15 square miles; topographical, 1,737 square miles; forest, 501 square miles: aggregate outturn, 17,198½ square miles. In the outturn of cadastral survey are included the revision of previous cadastral surveys of 958 square miles, and the revision of the previous records of 417 square miles.

5. Settlement work was in progress during the year under the control of the Director of Land Records in Districts containing the following areas:—(1) for revision of land revenue in temporarily-settled estates and Government estates, 7,813 square miles; (2) for survey and record of rights (not connected with settlement of land revenue) in estates other than wards' estates, 9,872 square miles; (3) for survey and record of rights in wards' estates, 760 square miles; total 18,445 square miles, as compared with 13,037 square miles in 1893-94, and 12,490 square miles in 1892-93. The following statement shows the general outturn and cost of survey-settlement work under the control of the two Directors during the year 1894-95, as compared with the three preceding years, according to the reports received (a):—

YEAR.	Traverse survey.	Skeleton boundary survey.	Forest survey.	Topographical survey.	Cadastral survey.	Record-writing.	Hill sketching.	Cost of survey.	Cost of settlement.	Total cost.
1	2	3	4	5	6	7	8	9	10	11
	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Rs.	Rs.	Rs.
1891-92	4,714	187	327	379	2,284*	1,471	194	5,92,269	4,66,480	10,58,749
1892-93	5,324	1,247	.....	.....	3,078	2,930	.....	7,88,309	5,00,961	12,89,270
1893-94	5,485	175	.....	.....	3,754†	3,637	.....	6,90,125	5,53,228	12,43,353
1894-95	3,091	23	.....	1,026	2,786‡	3,120§	.....	6,04,304	6,97,135	13,01,439
Total	16,614	1,632	327	1,405	11,902	11,158	194	26,75,007	22,17,804	48,92,811

(a) Revised figures have been furnished in certain cases for previous years.

* Includes 363 square miles revision survey in Cuttack.

† Ditto revision survey of 165 square miles in Puri and 63 square miles in Gaya.

‡ Ditto 424 square miles revision survey in Muzaffarpur.

§ Ditto 417 square miles ditto ditto.

The cost of survey and settlements incurred by Government from the beginning of the operations up to the 30th September 1895 in Orissa, Chittagong, and the Western Duars—the three principal areas which have been, and with the exception of the Duars still are, under settlement of land revenue—has increased from nearly 32 lakhs to nearly 36 lakhs of rupees. The expenditure in wards' estates on account of survey and settlement proceedings has been Rs. 71,147, Rs. 1,30,223, and Rs. 85,539 in the last three years. In private estates other than wards' estates, the expenditure was Rs. 5,94,144 in 1893-94, and has been Rs. 6,34,609 in 1894-95.

6. In the following paragraphs the progress made in the larger survey-settlements will be reviewed in the same order as in preceding years.

7. The Bihar survey was first taken in hand experimentally in the District of Muzaffarpur in 1885, soon after the passing of the Bengal Tenancy Act, but was stopped in 1886, when the survey party under Colonel Barron had completed—

	Sq. miles.
Traverse survey	803
Cadastral „	414
Record-writing	414

Orders for the resumption of the work were received in September 1891, and a traverse party took the field on the 19th December 1891, but the full strength of the establishment was not at work until about the 10th January

10. The programme for the settlement staff in Muzaffarpur for the season 1894-95 was (1) to attest the records of about 758 square miles which had been dealt with by the survey staff in 1893-94, (2) to supervise the record-writing and decide boundary disputes in an area of 1,367 square miles, and (3) to complete the records of 376 square miles attested in 1893-94, and case-work in the area to be attested in 1894-95. The Settlement Officer, Mr. P. C. Lyon, had a staff of 14 Assistant Settlement Officers employed during the working season, and five during the recess. The record-writing was supervised by the Settlement Officer and five Assistant Settlement Officers, but Mr. Lyon writes that on account of ill-health and other causes the supervision was less continuous than he would have wished. The work of settling boundary disputes was not so heavy as in the previous year, the number of cases filed being 376, against 593 in 1893-94, although the area dealt with was much more extensive. Since the commencement of the operations, 1,267 of these disputes have been filed, of which 1,243 have been disposed of; and out of 67 appeals decided, the summary orders of the Revenue Officers have been upheld in 62, modified in 3 (1 by compromise) and reversed in two cases. The Lieutenant-Governor agrees with the Director of Land Records and the Settlement Officer in considering these results to be very satisfactory. Nine officers were employed on attestation work, the programme for which was nearly completed, the average outturn for each officer being 22,000 plots per mensem. This is a better result than that of 1893-94, when the average outturn slightly exceeded the standard rate of 20,000 plots per mensem, and is specially satisfactory considering that in Muzaffarpur landlords are numerous, tenancies small, and disputes very frequent. One Assistant Settlement Officer was employed exclusively on case-work, and four more did this work during the recess. Cases under sections 104 and 105 of the Bengal Tenancy Act were more numerous than in the preceding year. The figures given in columns 7 to 9 of the statement above relate for the most part to rents settled on applications made by private landlords or by tenants. Of the 435 cases disposed of during the year in the Muzaffarpur district, 111 were filed by European indigo planters, out of which 69 were subsequently withdrawn "as having been filed by mistake for very small claims." The total number of tenants for whom fair rents have been settled from the beginning is 5,632, which is only a little more than one per cent. of the 464,872 tenants for whom existing rents have been recorded, and the increase of rent on the total attested rental is less than $\frac{1}{2}$ per cent., or 8 annas in Rs. 100. Of the enhancements hitherto decreed, Rs. 3,535 have been given on the ground of increased area, and only Rs. 123 on that of prevailing rate. In the Government villages in the riverain area, 29 cases affecting 595 tenants were disposed of, and the rents raised from Rs. 1,487 to Rs. 2,847; but the increase is not real, as the farmers and raiyats had colluded and caused figures far below the reality to be entered as existing rents. Up to the end of 1894-95, 14 appeals against fair rent decisions had been preferred; and out of 13 decided, the decisions of the Revenue Officers had been upheld in 11 cases and modified in two. Although the operations extended over a larger area, the number of suits under section 106 fell from 952 in 1893-94 to 808 in 1894-95. This is attributed to the orders of the Government of India, No. ²⁸²⁰/₂₄, dated the 1st October 1894, prescribing *ad valorem* fees, and to instructions issued by the Settlement Officer as to a charge of a court-fee of Rs. 10 on all such plaints. Mr. Lyon's instruction is understood to have the support of the Special Judge; but the subject is under consideration.

11. With regard to cases under section 106 of the Tenancy Act, Mr. Lyon writes as follows:—

"In my Annual Report last year I gave some reasons for a respectful protest against the work thrown upon us by section 106 of the Bengal Tenancy Act, and it is for those reasons that I have said above that I do not think we should cheapen this form of litigation in our Courts. The Special Judge has again reiterated his ruling that we have no concern, in dealing with these cases, with questions of right and title, and in his advice as to the levy of a court-fee of Rs. 10 in all cases, on the ground that it is impossible to determine, for the purposes of an *ad valorem* fee, the value of our decisions, he has clearly intimated that those decisions differ in many respects from the decrees of Civil Courts. At the same time, the ruling of the High Court in the case of Pandit Sirdar renders practically valueless all our

proceedings in the very numerous cases between landlord and landlord and raiyat and raiyat. * * * * It does not seem to me that we act with due consideration for the interests of the disputants in encouraging them to embark on expensive litigation in our Courts for the purpose of obtaining decrees which will certainly not be looked upon with favour by the Civil Courts, even under the most favourable circumstances, and which will in many cases be treated by them as of no legal value whatsoever. I think that we should confine our settlement proceedings to the preparation of a record which will carry a presumption in favour of the correctness of the entries in it, and that all our enquiries should be summary in their nature and untrammelled by the procedure of Courts whose decisions are decrees. And I fully believe that all parties concerned would welcome such a change, the present law having failed already to give satisfaction to parties who wish for a final settlement of their disputes and an end to litigation."

This decision of the High Court, that the powers of Settlement Officers to settle disputes with the authority of a Civil Court under section 106 of the Tenancy Act are confined to disputes between landlord and tenant and do not extend to disputes between landlord and landlord and tenant, is a serious blow to the completeness of the record of rights, and defeats the intention of the Legislature. It is one of several points as to which Sir Charles Elliott has drawn up a Minute showing in what respects amendment of the law is necessary in order to make the settlement procedure simple and efficient.

12. In consequence of ill-health, the Settlement Officer, Mr. E. G. Colvin, had to take leave from the 23rd February 1895, and Mr. Lyon was placed in charge of this district as well as of Saran, in addition to his duties as Settlement Officer of Muzaffarpur. During the greater part of the field season of 1894-95, when the settlement staff was at its maximum, nine Assistant Settlement Officers were employed in Champaran, four on record-writing, four on attestation, and one on case-work; and three were engaged on case-work throughout the recess. The programme of work was (1) the attestation of the records of 500 square miles, (2) supervision of record-writing and disposal of boundary disputes in 1,168 square miles, and (3) case-work under sections 104, 105, and 106 in the 500 square miles to be attested. Record-writing was inspected in 542 villages, and orders passed on 362 boundary disputes. Twenty-one appeals in village boundary cases were decided, in 19 of which the orders of the Revenue Officers were upheld, in one case modified, and in one reversed. The attestation programme was practically completed before the end of April, and the average outturn of work for each officer per mensem amounted to about 21,500 plots. The following is an extract from the Settlement Officer's report:—

"On the whole the attestation work was carried through with a remarkable absence of friction. A large proportion of the area dealt with was held by three large indigo concerns; and very great assistance was given to us in the preparation of the records by the managers and assistants of the factories. The attendance both of landlords and raiyats was good; and with the help of carefully kept and systematically arranged zamindari papers most of the difficulties of the attestation work were quickly surmounted."

Applications for settlement of fair-rents have been filed in much greater numbers in this District and in Saran than in Muzaffarpur. Fair rents have been settled in Champaran for not quite 25 per cent. of the 142,491 tenants for whom existing rents had been recorded down to the end of September 1895, and the percentage of increase of rent for the 35,001 tenants for whom rents have been settled is 14.35. During the year 323 cases against 17,896 tenants have been decided, and an enhancement of Rs. 15,438, or 10.5 per cent., decreed. Of this total, only Rs. 780 were given on the ground of prevailing rate, and the remainder on account of excess areas, no enhancement having been decreed on the ground of rise in prices. A large part of the increase has been decreed in accordance with compromises arranged between the landlords and tenants. The Director observes that there has been a noticeable decrease in the percentage of increase given, as the work has proceeded from areas in the north, where there is much waste land, to areas more south, where there is less waste land. Since the beginning of the operations, 23 appeals against fair-rent decisions have been decided; in 15 of these, the decisions of the Revenue Officers have been upheld and in 8 modified. As regards case-work under sections 105 and 106, out of 29 appeals instituted, the decisions of the Revenue Officers have been upheld in all the four cases hitherto decided.

reason as the north part of Champaran, viz., that it has lately been reclaimed from jungle. Truer analogues are the Ghazipur and Ballia districts, where the rates exceed Rs. 4, and Azamgarh, where 20 years ago Mr. J. R. Reid found the average rate to vary from Rs. 4 to Rs. 4-12, and now the rate is reported by the North-Western Provinces Board of Revenue to be about Rs. 5. Saran is a district of exceptionally rich and well-cultivated land, superior in fertility to any of the three North-Western Provinces districts mentioned. It is premature to formulate any definite conclusion from these tables till the figures are more accurately compiled and cover a large area; but, so far as they indicate, they tend to dispel the impression that the North Bihar raiyat is a down-trodden and rack-rented creature. Every district in the North-Western Provinces would envy North Bihar the possession of such a large proportion of land held by settled raiyats, and most districts would think the average rent-rate fair and moderate.

15. The expenditure on the operations in North Bihar has been as follows:—

	SURVEY.		SETTLEMENT.		TOTAL.		REMARKS.
	During the year.	To end of September 1895.	During the year.	To end of September 1895.	During the year.	To end of September 1895.	
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Muzaffarpur (a) ...	1,70,753	4,02,831	1,28,342	1,86,420	2,99,095	6,40,241	* This includes the expenditure in Saran in 1893-94. † Does not include portion of the Settlement Officer's pay.
Champaran ...	1,05,063	3,71,492	57,670	1,27,811*	2,22,733	4,99,306	
Saran ...	25,525	1,61,891	36,469	36,469†	61,985	1,98,351	
Darbhanga ...	.....	16,340	.....	.....	.....	16,340	
Total ...	3,61,341	10,12,544	2,22,472	3,50,690	5,83,813	13,63,238	

(a) Including the cost of survey of Muzaffarpur town and Hajipur Municipality.

On the basis of the expenditure incurred, orders have been passed for the recovery of cost, at the rate of 8 annas an acre, in those areas in the Hajipur and Bettiah subdivisions of the districts of Muzaffarpur and Champaran, respectively, where records have been finally published, $\frac{4}{10}$ ths being borne by Government, $\frac{2}{10}$ ths by landlords, and $\frac{5}{10}$ ths by raiyats. Arrangements are being made to effect recoveries from the beginning of the current season 1895-96. The collections from the tenants will be made by a Sub-Deputy Collector going round from village to village and distributing extracts from the record to all persons concerned on payment of the sums due: all the tenants' payments will be recovered, and as much as possible from the landlords, at this stage; the balance due from the proprietors will be recovered with the land revenue. It is hoped that Rs. 75,000 will be recovered from the landlords and tenants before the end of March 1896.

16. The question will soon arise whether the survey-settlement, when it has completed the four districts of North Bihar, is to be extended or not into the districts of South Bihar or of the Bhagalpur Division. Sir Charles Elliott, being now on the eve of leaving the country, desires to record his opinion that it should be extended. He believes that the operations which have been conducted have to a large extent dispelled the fears and suspicions with which the work was at first regarded. The raiyats are learning to regard the security given by the record of rights as a valuable protection of their tenure. The zamindars have begun to realise that it gives them a useful lever in securing a reasonable enhancement of rent, especially where cultivation has increased. The indigo planters have always perceived the advantage they reap by obtaining accurate knowledge of the rights and position of the parties with whom they have to deal. The vague alarms as to the irruption of a great flood of litigation and as to the imposition of a heavy burden of expenditure have been to a great extent dissipated. His Honour believes that no class is now strongly opposed to a survey-settlement except those who fear loss from the decrease of law suits and the quieting of disputes about title: and he trusts that the blessings now being conveyed to the districts of North Bihar may in the course of time be extended to all Bengal.

17. The survey of the temporarily-settled estates in Orissa was nearly completed during the year ending 30th September 1894. The survey work of the year under report comprised chiefly (a) the completion of the small temporarily-settled area ($5\frac{1}{2}$ square miles) which remained over for survey and record-writing, and (b) the 2"=1 mile topographical survey (with village boundaries) of 1,013 square miles of the permanently-settled tracts, some of which are situated on the extreme south of the Orissa

ORISSA—Survey.

Division on the borders of the Madras Presidency, while others are at the northernmost point touching the district of Midnapore. The total area traversed was 959 square miles, and the 1,013 square miles topographically surveyed were exclusive of 310 square miles of water of the Chilka Lake, and an overlap of 13 square miles of the Madras Presidency which had also been surveyed, in order that the lake might be fully mapped. The following table shows the progress made in each year from the commencement of the operations in 1889-90:—

YEAR.	PURI.				CUTTACK.				BALASORE.			
	Traverse sur-vey.	Cadastral sur-vey.	Record-writ-ing.	Topographical survey.	Traverse sur-vey.	Cadastral sur-vey.	Record-writ-ing.	Topographical survey.	Traverse sur-vey.	Cadastral sur-vey.	Record-writ-ing.	Topographical survey.
1	2	3	4	5	6	7	8	9	10	11	12	13
	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.
1889-90	413	358	358	...	119	...	...	...	...	...	...	...
1890-91	481	364	364	...	501	331	279	...	...	...	...	...
1891-92	135	397	397	...	1,286	1,453	1,164	...	588	...	...	...
1892-93	...	...	...	...	...	485	826	...	1,145	1,084	1,069	...
1893-94	...	104	104	...	15	...	...	...	...	649	664	...
1894-95	123	...	...	175*	646	5	5	661	190	...	...	190
	1,152	1,133	1,133	175	2,567	2,274	2,274	661	1,923	1,733½	1,733½	190

* Includes 13 square miles of overlap on Madras.

Government having decided that the resettlement of the Khurda Government estate, in the district of Puri, comprising an area of 886 square miles, of which the current settlement will expire in September 1897, should be based on the existing records revised and brought up to date through the agency of the sarbarahkars, 795 sarbarahkars went through a course of instruction in schools established for the purpose during the year, under the supervision of Mr. R. C. Ewing, the officer in charge of the survey in Orissa, in—

- (1) field surveying (on plane table and by field-book);
- (2) rules for the writing of record of rights;
- (3) extraction of areas and mapping of fields.

The rewriting of the records by the trained sarbarahkars under Mr. Ewing's supervision will be carried out in the season 1895-96, and the re-assessment effected in 1896-97.

The total cost incurred under the head of survey from the beginning of the operations down to the 30th September 1891 in Orissa amounted to Rs. 2,21,102 (excluding all charges for Angul, Banki, Kanika, and Kujang), and the following table shows the amounts expended during the last four survey years:—

		TOTAL SUMS EXPENDED.					
		Traverse survey, in-cluding demarcation and stone em-bedding.	Cadastral survey, in-cluding maps, areas and traces with arrears.	Record-writing with statis-tics and arrears.	Topo-graphical survey.	Other heads.	Total.
1		2	3	4	5	6	7
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Cuttack	1891-92	47,880	1,10,666	39,980	...	15,286	2,13,812
	1892-93	3,794	59,427	76,167	...	1,371	1,41,159
	1893-94	798	...	32,508	...	374	33,740
	1894-95	13,953	6,277	814	6,219	...	27,283
	Total	66,425	1,76,370	1,49,629	6,219	17,631	4,15,974
Puri	1891-92	9,758	33,696	9,453	...	13,539	66,436
	1892-93	...	4,998	3,454	...	776	9,228
	1893-94	...	3,032	3,261	...	...	6,293
	1894-95	3,962	366	610	1,406	3,302	9,546
	Total	13,720	42,092	16,678	1,406	17,607	91,503
Balasore	1891-92	17,740	...	...	...	...	17,740
	1892-93	49,601	79,992	33,723	...	47	1,63,363
	1893-94	842	60,527	45,096	...	...	96,465
	1894-95	3,823	9,991	3,920	1,767	...	19,501
	Total	72,006	1,40,510	82,739	1,767	47	2,97,069
2 nd mapping for the Orissa Divi-sion for 1894-95.		...	...	...	...	...	9,646
GRAND TOTAL		1,52,151	3,58,972	2,49,346	9,392	34,685	8,14,192

Excluding Rs. 6,293, which represented cost of the revision of survey of the Puri Temple lands, the total expenditure in Orissa under the head of survey amounts approximately to—

	Rs.
Incurring up to 30th September 1891 ...	2,21,102
„ from 1st October 1891 to 30th September 1895 ...	8,14,193
Total ...	10,35,294

The total area surveyed in Orissa, exclusive of the Puri Temple lands (105 square miles), being 5,036 square miles, the total cost per square mile is Rs. 205·6.

18. Mr. W. Maude was in charge of the settlement work in the Cuttack and Puri Districts with a maximum staff of 12 Assistants during the field season under him. In Cuttack 10 officers working for varying periods, which amounted in the aggregate to 61 months, attested records and recorded existing rents and status in 1,356 villages with an area of 681·38 square miles, containing 276,138 tenants and 1,184,545 plots. The average outturn for each officer *per mensem* was therefore 19,418 plots. This is a great improvement on the rate of work in the preceding season in which each officer only attested 5,921 plots per mensem. In Puri one officer did similar work in 23 villages with an area of 13·05 square miles, and containing 3,458 tenants and 11,986 plots. The following table shows the entire progress of attestation work in Cuttack and Puri from the beginning of the work:—

	WORK DONE.				WORK REMAINING ON 1ST OCTOBER 1895.		
	Number of villages.	Number of square miles.	Number of plots.	Number of tenants.	Number of villages.	Number of square miles.	Number of plots.
1	2	3	4	5	6	7	8
Cuttack				(Not stated)			
Up to end of 1891-92 ...	2,520	1,091	1,975,224	174,566			
During 1892-93 ...				101,548			
Do. 1893-94 ...	1,356	681	1,184,545	276,138			
Do. 1894-95 ...							
Total for Cuttack ...	3,876	1,772	3,159,769		1,047	500	881,467
Puri				(Not stated)			
Up to end of 1891-92 ...	1,894	933	1,352,295	20,482			
During 1892-93 ...	63	50	117,216	530			
Do. 1893-94 ...	1	2	3,038	3,458			
Do. 1894-95 ...	23	13	11,986				
Total for Puri ...	1,980	998	1,484,535		118*	91*	82,826*
Total of the two districts ...	5,856	2,770	4,644,304		1,165	591	964,293

* These figures relate to villages belonging to the Puri Temple.

During the recess months from May to September, five officers were employed in completing the records and tabulating the statistics. Mr. James Taylor was employed on settlement of fair rents during the year. Including the work of the previous year, he has settled rents in 142 villages for 13,950 tenants, whose existing rents he has raised from Rs. 36,219 to Rs. 44,885.

19. Balasore was constituted a separate settlement charge with effect from 1st November 1894, and Mr. S. L. Maddox has been in charge of the settlement of the District since that date except for the period from the 17th July to the 16th October 1895, when he was on privilege leave. Mr. Maddox had a maximum staff during the field season of ten Assistants, who attested records for 1,962 villages containing an area of 1,022 square miles, 296,818 tenants, and 1,204,215 plots. The average outturn for each officer *per mensem* was about 21,000 plots. The following table shows the progress of attestation work in this District from the beginning of the work:—

	WORK DONE.				WORK REMAINING ON 1ST OCTOBER 1895.		
	Number of villages.	Number of square miles.	Number of plots.	Number of tenants.	Number of villages.	Number of square miles.	Number of plots.
1	2	3	4	5	6	7	8
During 1892-93 ...	511	228	208,642	45,931			
„ 1893-94 ...	577	324	475,831	168,435			
„ 1894-95 ...	1,962	1,022	1,204,215	296,818			
Total ...	3,050	1,474	1,888,690	451,184	686	236	233,846

Two Assistant Settlement Officers were retained for tabulation of statistics during the recess, but they have not furnished any consolidated returns of the statistics.

Mr. Maddox and two of his Assistants made experimental settlement of rents, on the basis of soil maps, in 20 villages, in 11 of which the results show the proposed assets to be 51 per cent. in excess of rents now paid and 84 per cent. in excess of the assets of the last settlement.

20. In both these Districts the Settlement Officers have been making experimental efforts and feeling about in a not very successful way in order to establish some principles for the settlements of fair rents and the assessment of revenue, but they have hardly as yet realised that the first essential point is to obtain a firm grasp of existing facts as to rents and rent-rates. Although two Deputy Collectors were engaged on the work in Balasore, the prescribed table (such as is given in paragraph 14 above) has not been submitted for Balasore; this is perhaps due to the Settlement Officer's absence on leave. In Cuttack the figures for nearly 300,000 tenancies have been tabulated, but it has been done with excessive elaboration and such differentiation of classes and sub-classes and sub-sub-classes which need not be differentiated, that it is difficult to draw any conclusion from it. A Settlement Officer must learn that he cannot afford to concentrate his whole attention on the one branch of his work which he has in hand: he must look forward and foresee the end and prepare, as he goes along, the data which will be required to accomplish, the whole of the business he has in hand.

21. The cost incurred on settlement in all the three Districts during the year ending 30th September, 1895, amounted to Rs. 1,93,392, of which Rs. 1,10,185 were for Cuttack and Puri, and Rs. 83,207 for Balasore. The amount first mentioned, distributed over 1,716 square miles, the total area attested in the three districts, gives a cost rate of about Rs. 113 per square mile, or about 2 annas 10 pies per acre against $6\frac{1}{2}$ annas, the rate per acre arrived at in the previous year. The total cost of the settlement operations in Orissa down to the end of the year is reported to be Rs. 8,01,712, and the expenditure under the head of survey being Rs. 10,35,294, the total amount expended on the survey and settlement operations in Orissa down to 30th September 1895 amounts to Rs. 18,37,006.

22. The only survey work remaining to be done in Chittagong was the survey of a small area of thatching-grass lands and the demarcation of the Hill Tract boundary; of the latter work 49 miles still remain to be surveyed. The number of boundary disputes disposed of during the year was 233. The settlement operations were conducted by Mr. C. G. H. Allen, and, after he went on furlough, by Mr. Stevenson-Moore, assisted by a staff consisting, during the greater part of the year, of five Assistant Settlement Officers. The progress in "mahal milan," or adjustment of lands of estates and villages, was completed in 240 villages, leaving 276 villages still in hand. There was a marked improvement in the progress of settlement of fair rents; for 80,997 tenancies in 356 villages rents were settled in the year, against 13,463 in the previous year. The total number of villages in the District is now stated to be 1,036 and of noabad tenants 212,655, but these figures are liable to correction; there are several discrepancies which are noticed in the Chittagong report, and it is feared that accuracy has not yet been attained in this District in the compilation of settlement statistics. The number of tenants whose rents remained to be settled at the end of the year was 107,252 distributed in 591 villages, and this work can hardly be quite finished in 1895-96, as hoped for in the Resolution on the report for the year 1893-94. The results of the settlement of fair rents have been, in the words of the Director of Land Records, that "rents in the aggregate payable by tenants of all degrees have been raised from Rs. 4,71,326 to Rs. 6,18,418; and revenue payable directly to Government has been raised from Rs. 2,45,617 to Rs. 3,56,415, or 45 per cent. The increase of revenue has varied in the different circles, from 12 per cent. in Kutubdia, where rents were settled only 10 years ago (and where presumably rates have not been increased and only excess lands have been assessed), to 94 per cent. in Satkania and 196 per cent. in Sargu. In Satkania rents were previously much too low, the Settlement Officer says. He has a discretion to reduce enhancements which may appear to him to have been excessive or too suddenly made. In Sargu waste lands have been broken up." Only two appeals were presented to the Special Judge against fair-rent decisions. One only was decided, and against the appellant, during the year.

possession of 5,579, or 42·4 per cent.; rent-free-holders and tenure-holders occupy 255 and 115 respectively. The average rate of rent per acre paid by occupancy raiyats is 14 annas 3 pies. The cost of settlement operations amounted to Rs. 15,840-14-10. The Settlement Officer proposes to raise the existing revenue of the estate from Rs. 40,842 to Rs. 79,899, or by 95 per cent., the extension of cultivation since the last settlement having amounted to 131 per cent. The report containing his proposals has not yet reached Government.

25. The operations in the Darjeeling District comprise 819 jotes, covering an area of about 196 square miles, and 33 grants, covering an area of about 35 square miles, of which by far the greater portion is under tea. With regard to the grants, it is only necessary to make a boundary survey and a block survey of the interior, such as is commonly made in the Western Duars, to ascertain the area brought under cultivation. The survey and record-writing of 210 square miles were finished, leaving a small portion of the "grant" land to be completed in the current year. An Assistant Settlement Officer supervised the record-writing. Attestation and assessment will be carried out this year.

26. The settlement of the Kolhan Government estate in Singhbhum, which was made for 30 years, will expire on 31st March 1897, and measures were begun in 1894 for its resettlement. The work is placed under Mr. Craven, Deputy Magistrate and Deputy Collector, who has had much experience among the Sonthals, a race not dissimilar to the Kols, and not under the Director of Land Records. But a traverse survey has been run through the District (the forest area excepted) and skeleton maps prepared by the professional department, on which the field survey is based. The estate is said to cover an area of about 1,423 square miles, exclusive of forest reserves, and to contain 796 villages. The traverse survey of 1,175 square miles was completed during the year at a cost of Rs. 35,954.

The settlement not being under the Director of Land Records and Agriculture, no mention is made of it in his Report. It will be convenient if, as in the case of the Sonthal Parganas settlement, he embody in his future reports a short paragraph, giving the history of the work for the year. Measurement has been completed and records prepared in 182 villages, covering an area of 79,111 acres of cultivated and 34,356 acres of uncultivated land. The expenditure amounted to Rs. 28,274 up to the end of September 1895.

Mr. Craven has drawn up a report containing his proposals for assesment, and orders have recently been issued by Government.

27. The survey of the estates of His Highness the Maharaja of Hill Tippera in Tippera and Noakhali Districts, and the initial record-writing, were completed before the commencement of November 1894. Attestation was taken in hand in the middle of November 1894, and the work of the year consisted of attesting 327 villages with 29,119 tenants and 132,046 plots, covering 89 square miles.

Mr. J. G. Cumming, c.s., took charge of this settlement in October 1894, and had two Assistant Settlement Officers under him during the field season.

The average outturn of work per officer was 9,196 plots a month, which falls very far short of the estimated outturn of 20,000. Briefly, the causes which have brought about this result and have rendered the task of making a record of rights more difficult in Tippera than in any other part of these provinces have been the intricate system of taluks, the large number of disputes, and the obstructive attitude of the tenants. Applications for the settlement of fair rents were filed in 90 villages during the year under report and in 12 during the previous year. Sixteen cases in five villages affecting 177 tenants were disposed of during the year. The publication of draft records was made in five villages during the year; no final publication has taken place.

Statistics of rent and status have been tabulated for 29,944 tenancies (exclusive of under-raiyats' holdings), with the result that 25,555 tenancies, or 85·3 per cent., are found to have been held by settled and occupancy raiyats paying an average rent of Rs. 3-8-2 an acre, calculated on the cultivated and uncultivated area. The cost incurred on settlement during the year was Rs. 33,268, and from the beginning Rs. 68,073.

28. The traverse and cadastral survey of the Tikari estate had been well advanced in the previous year and, during 1894-95 the traverse work covered an area of 46·03 square miles and 65 scattered villages, and the cadastral work, including the revision of certain villages previously surveyed by the Irrigation Department, 18·09 square miles and 45 villages; some of the villages were situated in Gaya and some in Patna District. The record-writing was carried out for 69 square miles and 104 villages. The work of the professional party in the Raj estate, except the Belkhara mahal, was completed during the year.

Over three-fifths of the attestation work was carried out during the year under review. Records were attested for an area of 317·73 square miles, containing 441 villages, 27,612 tenants, and 382,837 plots. The work was done at the rate of 18,500 plots a month for each officer employed. Publication of the draft records went on *pari passu* with attestation, as few applications for settlement of fair rents were filed, and the draft records of 440 villages were published out of the 441, of which the records were attested.

Statistics have been tabulated for 27,612 tenancies; 22,655, or nearly 81 per cent., are held by settled or occupancy raiyats; 2,097, or 7 per cent., by rent-free holders; 1,137, or 4 per cent., by non-occupancy raiyats. Nearly three-fourths of the rent paying area is held on produce rents, and the rate of cash rents for settled and occupancy raiyats is Rs. 4-7-3 an acre.

The total expenditure of the Survey Department during the year has amounted to Rs. 28,761, and the work of the Settlement Officer has cost Rs. 33,104 (including the cost of supervision of record writing in the Government estates). It is estimated that the whole cost of the operations, settlement and survey, will amount roughly to 7 annas 6 pie an acre.

29. The following table shows the progress of the operations and the cost incurred in the smaller surveys and settlements dealt with by the Directors of Surveys and Land Records:—

ESTATES.	Number of villages.	Area in square miles.	SURVEY.		SETTLEMENT.					Total cost of survey and settlement to end of the year.
			Traverse— During 1894-95.	Cadastral— During 1894-95.	Attestation : number of villages—		Settlement of fair rents to end of the year.			
					During 1894-95.	To end of 1894-95.	Number of tenants.	Former rental.	New rental.	
1	2	3	4	5	6	7	8	9	10	11
<i>Government estates.</i>										
(1) Pataspur estates in Midnapore	96	54·6	.....	.....	48	96	.....	.....	.....	29,063
(2) Jaipur estates, in Bogra	157	55·8	.....	.....	11	11	.....	.....	.....	22,260
(3) Backergunge estates	22	61·02	.....	53·43	3	4	936	14,156	20,224	21,164
(4) Gaya estates	109	89	89	89	.....	.....	.....	.....	.....	1,351
(5) Shahabad estates	20	18·75	.....	9·40	12	20	.....	.....	.....	.....
Total	414	282·17	89	151·88	74	131	936	14,156	20,224	74,738
<i>Private estates.</i>										
(1) Chaurasi estates in 24-Parganas.	53	33	1	53	.....	.....	.....	.....	.....	9,618
(2) Ganga Mandal in Tippera	3	1·16	.....	.....	3	3	.....	.....	.....	623
(3) Palpara in Tippera	11	3·46	.....	.....	11	11	.....	.....	.....	1,654
(4) Tantibunia in Khulna	8	20	20	20	.....	.....	.....	.....	.....	4,140
(5) Chiknibandj in Backergunge	7	5·45	.....	5·45	.....	.....	.....	.....	.....	1,385
Total	82	63·07	20½	58·45	14	14	.....	.....	.....	17,428
<i>Wards' estates.</i>										
(1) Burdwan Raj khas mahals in Burdwan, Hooghly, and Bankura.	176	129·3	.....	10·03	35	152	4,152	37,468	20,403	(b).....
(2) Dakhin Shahbazpur in Backergunge.	47	146·58	.....	.....	.....	47	7,530	.....	.....	96,169
(3) Sirampur in Backergunge	9	9·13	.....	33	7	9	1,451	20,650	20,030	6,762
Total	232	285·01	.....	10·36	42	208	13,472	57,518	59,543	1,02,931
GRAND TOTAL	728	630·25	109½	220·69	139	353	14,408	71,674	79,767	1,95,097

(a) Only Rs. 745 have been shown as expended by the Survey Department. The rest of the survey expenditure has not been reported.

30. The final publication of the khatians and record of rights of the villages in parganas Teur, Sultanabad, and Ambar, in the Sonthal Parganas, which had been measured and settled during the year ending 30th September 1894, was completed during the month of October 1894. No fresh settlements of private estates in the Sonthal Parganas were taken up during the year.

31. Besides the question mentioned in paragraph 11 above as to the power of a Settlement Officer to deal with disputes between landlords *inter se* and tenants *inter se*, the following practical difficulties in the working of the Tenancy Act are mentioned by Mr. Macpherson in his Report and by the Board in their covering letter:—

- (1) How far the Settlement Officer is bound to act on a compromise agreed to by both parties, or whether he should go behind the written compromise ;
- (2) What power a Settlement Officer or a Special Judge has to review and modify his own decisions, either at the petition of an aggrieved party or of his own motion ;
- (3) What is the meaning of the term "prevailing rate?"

On these points the Lieutenant-Governor agrees with what the Board has said or proposes to do. In the first case, the decision of the High Court, in the case of the Bettiah Raj *versus* Palti Koeri and others, lays down a ruling which disposes of the doubts raised, and which should be followed. In the second case, three Special Judges have held that the power of revision exists, and it should be exercised until these decisions are upset by higher authority—an eventuality which need not be anticipated. As to the third point, the Board's further reference to the law officers may be awaited, but His Honour has elsewhere intimated his opinion that the help of the Legislature will have to be called in to cut this knot. The Lieutenant-Governor also agrees with the remarks made by the Board (paragraph 8) on Mr. Lyon's aspiration after freedom from the trammels of Civil Code Procedure in dealing with disputes under section 106. Mr. Lyon is mistaken in thinking that no such suits are tried in Chittagong. On the contrary, the table on page xxxi of the Report shows that 1,146 suits under this section were disposed of there in the past year, and the Settlement Officer has informed the Lieutenant-Governor that Chapter VI of the new rules under the Tenancy Act has greatly simplified the procedure and facilitated progress in disposing of these cases.

32. In Chapter V of his Report the Director of Land Records has dealt with the subject of the maintenance of settlement records. Act III (B.C.) of 1895 has now been passed; it provides for the maintenance of records of rights in land in surveyed areas, to which it may be extended, by requiring all classes of privileged tenants to register all mutations of tenant-rights, whether due to succession or transfer. The registration of mutations of the rights of non-occupancy raiyats and of under-raiyats is left optional. Since the conclusion of the year, rules for the introduction and working of the Act have been published for criticism, and have recently been issued. Also measures have been taken for the establishment of offices at Hajipur in Muzaffarpur and at Bettiah in Champaran for the registration of mutations. Apart from the Act, attempts have been made in large estates belonging to Government or under the Court of Wards to improve the system of record of mutations of tenancies. Half-yearly returns of mutations of tenant-right and settlements of abandoned holdings or waste lands on large estates belonging to Government or under the Court of Wards have been required, and will result, it is hoped, in more efficient maintenance of the rent-rolls. In Khurda maps and copies of khasras have been corrected by the sarbarakars in about 867 of the 1,378 villages. In the Angul Government estates 30 out of the 417 sarbarakars have submitted returns. For the Western Duars rules have been passed, prescribing the maintenance of mutation registers, which give in abstract the principal facts for each jotedar's or chukanidar's tenancy as recorded in the settlement. The working of these rules should be carefully watched.

33. The Lieutenant-Governor has on previous occasions cordially acknowledged the excellent work done by Mr. W. C. Macpherson and Colonel J. E. Sandeman in the

Conclusion.

management of their Departments, and has commended their enthusiasm and energy in the performance of their duties. He has again to thank them for their eminently successful labours during the past year, and especially to record his obligations to Mr. Macpherson for the success with which he has grappled with the difficulties which necessarily accompany the working of a new law for the first time on so large a scale. Both the Directors have furnished lists of their subordinates who have rendered good service during the year, and Sir Charles Elliott desires that an expression of his high appreciation may be communicated to Captain R. T. Crichton of the Survey Department and to the following officers of the Settlement Department:—

Settlement Officers.
 Mr. C. G. H. Allen.
 „ E. G. Colvin.
 „ J. G. Cumming.
 „ P. C. Lyon.
 „ S. L. Maddox.
 „ C. J. Stevenson-Moore.
 Babu Peari Mohun Basu.

Assistant Settlement Officers.
 Mr. R. Nathan, I.C.S.
 „ M. F. Gauntlett, I.C.S.
 „ W. Thomson, I.C.S.
 „ J. Taylor.
 Munshi Nundjee.
 Maulavi Ghulam Ghous.
 Babu Annada Charan Gupta.

The names of the other Assistant Settlement Officers specially mentioned by the Director in paragraphs 120-121 of his Report will be noted in the Appointment Department.

By order of the Lieutenant-Governor of Bengal,

C. E. BUCKLAND,
Secretary to the Govt. of Bengal.

EXTENSION OF THE SYSTEM OF PAYMENT OF RENT BY MEANS
OF POSTAL MONEY-ORDER TO THE DISTRICT OF PURI IN
ORISSA, WITH EFFECT FROM THE 1ST JANUARY 1896.

REVENUE DEPARTMENT—LAND REVENUE.

Calcutta, the 12th December 1895.

RESOLUTION—No. 5403.

READ—

Government Resolution No. 319L.R., dated the 19th March 1891.

Government Notification, dated the 10th September 1891.

Memorandum from the Government of India, No. $\frac{1793}{3-27}$, dated the 17th June 1895, and enclosure.

Memorandum from the Board of Revenue, No. 1010A., dated the 10th October 1895, and enclosures.

Letter from the Postmaster-General, Bengal, No. $\frac{29503}{M.O. 1 No. 3}$, dated the 5th November 1895.

IN June last the Government of India forwarded to this Government for disposal a petition, dated the 2nd idem, from certain inhabitants of the town of Puri in Orissa, praying that the system of payment of rent by means of postal money-order might be extended to that district. The Board of Revenue, who were consulted by Government, supported the recommendation of the local officers in favour of the petitioners' proposal, and the Postmaster-General, Bengal, also has reported that he has no objection to the introduction of the system into the Puri district. In these circumstances, and having regard to the success of the system of paying rent by money-order, which was at first introduced tentatively in the Burdwan, Rajshahi, Presidency and Dacca Divisions, and was afterwards, by Government Resolution No. 319L.R., dated the 19th March 1891, extended to all the districts of Bengal in which the Bengal Tenancy Act was in force, the Lieutenant Governor is pleased to accede to the prayer of the petitioners, and to authorise, under section 54 (2) of the Bengal Tenancy Act, which, with certain other portions of the Act, has been extended to Orissa by Government Notification, dated 10th September 1891, that from the 1st January 1896 the payment of rent by means of postal money-order shall be allowed in the district of Puri.

ORDER—Ordered that this Resolution be published in the *Calcutta Gazette*.

By order of the Lieutenant-Governor of Bengal,

C. E. BUCKLAND,

Secretary to the Government of Bengal.

WEATHER AND CROP REPORT.

For the week ending the 16th December, 1895.

Burdwan.—No rain. Weather fair. Prospect of *aman* crop not good; its reaping and thrashing commenced. Sugarcane good. Water-supply sufficient. Fodder good. Condition of cattle very good. Common rice sells at an average price of 16 seers a rupee.

Midnapore.—Rainfall nil. Weather cold. Paddy is being reaped all over the district; the produce in Ghatal has improved and said to be an 8-anna crop. Indigo, sugarcane and linseed doing well. Some rain will improve prospects. Fodder and water sufficient. Common rice selling at—

	Srs.	
Midnapore ...	18	} per rupee.
Contai ...	22	
Tamluk ...	15	
Ghatal ...	16	

24-Parganas.—Rainfall nil. Weather bright and cool. Harvesting of *aman* continues; estimated outturn 8 annas in the north and 12 annas in the south of the district. *Rabi* crops progressing fairly. Fodder sufficient, but water insufficient in Barasat and Basirhat. No cattle-disease. Rice sells at—

	Srs.	c.	
Sadar ...	12 to 14	0	} per rupee.
Barasat ...	15	0	
Basirhat ...	14	3	
Diamond Harbour ...	16	0	

Murshidabad.—No rain. Weather seasonable. State of *kalai* good. Harvesting of *aman* still continues; estimated outturn 8 annas. Prospect of *rabi* crops seems good, except wheat. Cutting of sugarcane still going on. Indigo and mulberry doing well. Fodder sufficient. Common rice sells at 14 seers a rupee.

Khulna.—Rainfall at Sadar .03, Bagerhat .49, Satkhira nil. Weather seasonable. Harvesting of *aman* going on. No cattle-disease. Fodder and water sufficient. Common rice sells at—

	Srs.	c.	
Sadar ...	16 to 21	0	} per rupee.
Bagerhat ...	17	8	
Satkhira ...	14	3	

Dinajpur.—Rainfall nil. Weather cold. Condition of *rabi* crops not good. Rain is wanted. Common rice selling from 13 to 16 seers per rupee. No report of any cattle-disease. Fodder and water sufficient.

Rangpur.—Rainfall nil. Harvesting of *aman* going on. Prospects generally good. Common rice selling at 14 seers per rupee. Fodder sufficient.

Pabna.—Rainfall nil. Weather cool and pleasant. Harvesting of *aman* continues. Sowing of *rabi* crops nearly over. Fodder sufficient. Common rice sells at Sadar 18 seers and Sirajganj 13 seers per rupee.

Dacca.—Rainfall .35. Weather seasonable. Harvesting of *aman* paddy going on; prospects fair. *Rabi* crops thriving. No cattle-disease. Fodder available. Common rice sells at 15 seers a rupee.

Chittagong.—Rainfall 4.26. Weather variable. *Aman* ripening and is being harvested in places. Prospects not good. Water and fodder sufficient. Common rice sells at 15 seers per rupee.

Patna.—No rain. Harvesting of paddy in progress. *Rabi* and poppy doing well. The resowings of poppy coming on well. Condition of cattle good. Fodder and water sufficient. Common rice sells from 18 to 23 seers per rupee.

Gaya.—No rain. Harvesting of paddy in progress. *Rabi* crops suffering for want of moisture. Poppy doing well. Price of common rice at Sadar 17 seers against an average of 16 $\frac{1}{2}$ seers per rupee. Water and fodder sufficient.

Champana.—No rain. Harvesting of *aghani* continues. *Rabi* and poppy are being weeded. Prospects generally good. Common rice selling from 15 to 22 seers per rupee. Fodder and water for cattle sufficient.

Darbhanga.—No rain. Weather seasonable. Rice harvest continues. Rain much wanted for *rabi* crops. The later poppy sowings coming up well. Fodder for cattle plentiful. Prices stationary.

Bhagalpur.—No rain. Weather cold. Harvesting of winter paddy not finished; estimated outturn above 12 annas. Rain wanted for the *rabi* crops. Water sufficient. Fodder reported as getting scarce in Banka. Common rice sells at an average price of 19 seers per rupee.

Purnea.—No rain. Cutting of *aghini* rice and sowing of *rabi* crops continue. Prospects good. Fodder and water sufficient. No cattle-disease. Price of common rice 18 to 25 seers per rupee.

Cuttack.—Rainfall nil. Weather seasonable. Harvesting of *sarat* rice in progress. *Dalua* paddy seeds sown in places. Condition of cattle good. Fodder sufficient. Common rice sells at—

				Srs. c.	
Cuttack	23 10	} per rupee.
Jajpur	...	...	...	29 10
Kendrapara	...	...	...	31 8
Banki	...	...	...	29 8

Hazaribagh.—No rain. Weather seasonable. Harvesting of paddy in progress; average outturn 8 to 12 annas. Rain wanted for the *rabi* crops. Poppy progressing satisfactorily. Fodder and water sufficient. Common rice selling at 13 to 16 seers rupee.

General Summary.—The principal feature of the weather during the week was a storm in the Bay, which struck the coast near Chittagong on the 12th instant and caused heavy rain in that station and rain in less quantities over other parts of Eastern Bengal. The harvesting of winter rice is in full progress, and the outturn, as previously reported, will be below the average in most districts. The *rabi* crops are doing well, but in some districts there is lack of moisture. Prospects of poppy are generally satisfactory. Indigo and sugarcane are thriving. No cattle-disease is reported. The price of common rice is still steady.

By order of the Lieutenant-Governor of Bengal,

REVENUE DEPARTMENT,
The 17th December, 1895.

C. E. BUCKLAND,
Secretary to the Government of Bengal.

SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS TAKEN IN BENGAL, AND OF THE METEOROLOGICAL OBSERVATIONS TAKEN IN ASSAM, FOR THE MONTH OF NOVEMBER 1895.

THE principal features which have characterised the meteorology of November have been—

1. Pressure was on the average for the month in small to moderate excess, the variation equalling about 0·03" to 0·04," and being usually largest over the eastern half of the province and smallest at the western stations.

2. The average of the daily maximum temperatures was in very decided excess, the western districts registering about 3° to 4° above the normal, and the eastern districts only an excess of about a degree. In the night, or minimum, temperatures also excess amounts were usually registered, the greater part of the province showing an excess of about 1° to 2°, while at the extreme eastern stations and in Assam slightly defective temperatures were registered.

3. Humidity and cloud proportion both varied moderately from the normal, but while, however, humidity was in excess at all stations except one, the excess averaging about 5 per cent., on the other hand all the stations, except about a fifth, showed a cloud proportion smaller than usual, the cloud proportion only equalling about half the normal amount for November: hence showing that the weather generally in November was less disturbed than usual.

4. The greater part of the province received practically no rain during November, and the only division in which a moderate fall was received was Orissa, but even here the fall was only equal to about half the normal. East Bengal also received small amounts of rain, but only equal to about a seventh of the normal amount, while elsewhere there was practically no rain at all. Taking the province of Bengal as a whole, the actual falls in November were less than 18 per cent. of the usual amounts.

5. At the close of October, weather had been disturbed in Bengal, but conditions quickly became more settled, and at the beginning of November weather was fine except over Orissa, where showers continued to fall, but these, however, also ceased from about the 1st. Owing to a slight disturbance in the Bay, again weather in Lower Bengal became cloudy on about the 8th or 9th, and a few local showers fell, but from this time up to about the 20th weather continued practically fine, though the conditions as to temperature were very abnormal, as rather large excess amounts continued to be registered, and at the same time the northerly wind current was light and irregular. A comparatively cool wave of air, however, swept over the province from about the 21st, and from this time up till the close of the month ordinary cold-weather conditions set in, and a steady north-east monsoon wind current prevailed over the province. Thus, on the whole, the weather conditions were fine and almost settled throughout nearly the whole of November.

The following is a very brief summary of the meteorological changes in Bengal during November:—

In the last week of October a cyclonic storm of considerable intensity passed across the south-west of the Bay, and died away soon after it crossed the coast between Nellore and Masulipatam. This caused a current of moist air to flow northwards up the west of the Bay, and into Orissa, Lower Bengal, and Chota Nagpur. This wave of moisture-laden winds was again slowly driven back, and by the 1st of November it had withdrawn from all districts except Orissa. Hence, from the commencement of the month, weather was fine and almost rainless, except in Orissa, which, on the 1st, reported practically general rain. The conditions of humidity and temperature generally obtaining over the province were a little abnormal, and temperature in particular during the first week of November rose very considerably, and from being in defect at the end of October it became in excess by amounts ranging up to about 5° in places. A slight disturbance formed in the Bay in the first week of November, but it did not reach the land, though its influence was seen in producing cloudy weather and a few local showers in Lower Bengal, which were reported on the 8th and 9th. From this time up to about the 20th, the changes were unimportant, though rather abnormal conditions of excessive temperature and to a smaller degree of humidity continued to be reported. Wind directions were also not very steady, and southerly winds were reported in South Bengal on some occasions in the middle of November, and hence the true cold season or north-east monsoon conditions can scarcely be said to have established themselves properly up till about the 20th of November. Conditions over North-Western India, however, indicated a change in the weather from the middle of the month, for a barometric depression which had appeared in the Southern Punjab on the 16th commenced to move south-eastwards, while a cold wave of air appeared in Baluchistan, which began to spread eastwards. On the 18th the centre of the depression was situated near Meerut, and the feeble storm was breaking up against the Himalayas, giving snow and hail in the hills and rain in the adjacent plains, while the cold wave had moved over the Punjab on the 18th, and on the 19th it was advancing over the North-Western Provinces. During this time the changes of temperature and pressure in Bengal were small and unimportant, but from the 20th the cold wave commenced to affect Bengal, and from the 19th to the 20th there was a fall in the mean temperature of about 1°.

and on the 21st of about 1° to 3° , while the fall was of a rather smaller amount on the 22nd. On this last date also pressure had decreased rather briskly, and the distribution became fairly normal. On the 22nd, however, the maximum temperatures reported were usually still from 1° to 3° in excess, though there was little difference in the night, or minimum, temperatures. On the 23rd temperature again fell at the majority of stations, and the mean temperature became not very far from the normal, while the pressure changes were small and the distribution about normal. The northerly winds characteristic of the cold season also became more strongly developed, and steady cool northerly winds of light to moderate force established themselves over the whole province from about the 23rd instant.

During the last week in the month the meteorological changes which occurred over the greater part of Bengal were unimportant, and in all districts except in the hills of North Bengal and at the stations at their foot fine settled weather of ordinary north-east monsoon character obtained, while a fairly steady northerly wind current continued to blow over the whole province. Slightly disturbed conditions, however, appeared in the hills about the 28th, and a few rain showers were reported in and near the hills for the last day or two of the month, while the disturbance also caused an increase in the cloud proportion at some of the neighbouring stations in the plains.

It will be seen, however, that weather in Bengal was in November decidedly more settled than usual, and hence the amounts of rain that have fallen have been exceptionally small.

Pressure—Was generally rather high for the first week or ten days of the month, but during the week ending the 16th instant an almost normal pressure was registered. In the following week, again, a small but distinct excess was registered, and for the last week the excess equalled from $0.02''$ to $0.03''$. Hence for practically the whole month slight excess pressures were recorded. The mean pressure for the month has been in excess by amounts which have usually averaged about $0.03''$, but the variations were largest at the eastern stations and smallest in the west of the province: the largest excess was indeed registered at Silchar, where it equals $0.06''$.

Temperature—For the first twenty days was very considerably above the normal, but during the last ten days the variations from the normal became small. Hence the mean temperature for the month for the whole of Bengal was 2° above the normal, and this excess was fairly equally distributed in most divisions.

The variation of the average weekly temperature from the normal in various districts is seen in the table below, where the actual variations of maximum, minimum, and mean temperatures at nine typical stations in different parts of the province are recorded:—

STATIONS.	WEEK ENDING 9TH NOVEMBER 1895.			WEEK ENDING 16TH NOVEMBER 1895.			WEEK ENDING 23RD NOVEMBER 1895.			WEEK ENDING 30TH NOVEMBER 1895.		
	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.
Cuttack ...	+0.9	+0.2	+0.6	+3.5	+3.0	+3.2	+2.4	+4.3	+3.3	+0.2	-0.8	-0.4
Calcutta ...	+1.1	+0.9	+1.0	+4.1	+4.1	+4.1	+3.3	+2.8	+3.0	+1.5	-0.9	+0.4
Chittagong...	+1.0	-1.9	-0.4	+1.0	+0.2	+0.6	+1.4	+2.9	+2.1	-0.8	0	-0.4
Burdwan ...	+0.9	+0.3	+0.6	+4.1	+4.9	+4.5	+4.6	+2.3	+3.4	+0.9	-0.1	+0.4
Patna ...	+1.4	+2.9	+2.1	+3.9	+6.2	+5.1	+3.8	+3.5	+3.6	+1.4	+2.0	+1.7
Gaya ...	+3.1	+2.5	+2.8	+5.8	+4.9	+5.3	+5.7	+3.2	+4.5	+3.9	+2.5	+3.2
Purnea ...	+1.3	+2.1	+1.7	+2.5	+6.1	+4.3	+3.5	+1.9	+2.7	+2.3	+1.2	+1.8
Hazaribagh ...	+1.8	+1.9	+1.8	+5.3	+4.6	+4.9	+4.8	+4.4	+4.6	+2.7	+1.7	+2.2
Darjeeling ...	-0.2	+2.0	+0.9	+0.5	+4.6	+2.5	+0.8	+1.6	+1.2	-2.9	-0.9	-1.9

Rainfall.—Orissa has received an average fall of 0.72 inch, which is, however, only about half the usual amount. In East Bengal an average fall of only 0.15 inch has been received, and in all other divisions the falls have been quite unimportant.

The following table gives in a condensed form the rainfall information for each of the six large meteorological divisions of Bengal for the present year up to the close of November. The numbers there given, as in the case of the former months of the year, are the actual average rainfalls in each division, expressed as a percentage of the normal fall for the period, and the last column also gives the total rainfall up to the close of November, expressed in

the same way. The rainfall for the year, it will be seen, has been rather largely in defect of the normal in all divisions except Orissa:—

METEOROLOGICAL DIVISIONS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	Actual rainfall of first eleven months of 1895 expressed as a percentage of the normal fall for the period.
South-West Bengal ...	44	9	29	111	86	82	67	67	67	85	8	72
North Bengal ...	27	5	49	129	91	43	165	87	89	30	20	89
East Bengal ...	11	1	38	140	133	47	81	90	75	107	14	80
Biher ...	71	88	34	129	70	72	120	102	77	16	7	89
Orissa ...	49	101	29	194	46	212	79	116	90	89	53	103
Chota Nagpur ...	66	52	71	418	70	109	98	67	78	88	0	88

The following table gives the summary of the temperature and rainfall data of each of the seven meteorological divisions of the province for the month of November 1895:—

METHEOLOGICAL DIVISIONS.

TEMPERATURE.										RAINFALL.					
		Highest observed during month.	Lowest observed during month.	Averages for month.			Average mean of month above or below normal mean of month.	Of month.			Rainy days.			Since 16th October 1895.	
				Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in month.	Normal average number in month.	Variation.	Average.	Normal average.
South-West Bengal	...	90°3	55°7	84°8	65°1	75°0	+1°8	0°01	0°33	-0°32	0°00	0°83	-0°83	1°32	2°03
North Bengal	...	87°6	54°9	83°2	63°9	73°6	+2°0	0°05	0°17	-0°12	0°22	0°41	-0°19	0°40	1°50
East Bengal	...	88°3	56°0	83°6	63°2	74°4	+0°7	0°15	1°07	-0°92	0°48	1°35	-0°87	0°58	2°90
Bihar	...	91°0	49°4	84°6	61°5	73°0	+2°5	0°01	0°14	-0°13	0°05	0°34	-0°29	0°16	1°12
Orissa	...	90°2	51°5	85°4	67°1	76°3	+1°2	0°72	1°36	-0°64	0°50	3°12	-1°32	3°33	3°86
Chota Nagpur	...	89°6*	52°0*	82°1*	60°2*	71°2*	+2°0*	Nil	0°34	-0°34	0°00	0°00	-0°00	1°82	1°12
Assam	...	88°7	52°4	81°9	62°9	73°5	+0°7								

* Daltonganj not included.

METEOROLOGICAL OFFICE, BENGAL,
The 17th December 1895.

A. PEDLER,
Meteorological Reporter to the Govt. of Bengal.

Results of the Meteorological Observations taken at the Alipore Observatory from 8th to 14th December 1895.

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Miles recorded.	Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.				
1895.		°		Inches.	°	°	°	°	°	Inches.	°	%				Inches.	
Dec.	8th	130.4	7.7	29.956	64.7	75.4	18.2	57.2	57.3	0.385	51.7	63	NNW and N by W	78	Nil	Partially cloudy.	
"	9th	134.7	6.6	29.916	64.5	76.0	22.0	54.0	56.7	0.362	50.0	61	NNW and N by W	73	"	Partially cloudy.	
"	10th	131.1	6.9	29.887	65.5	75.8	19.9	55.9	58.7	0.409	53.4	66	N and NNW ...	51	"	Partially cloudy.	
"	11th	97.2	Nil	29.798	66.7	70.6	9.2	61.4	61.4	0.477	57.6	73	NNE, NNW and N by E.	73	"	Cloudy, o	
"	12th	133.9	7.4	29.809	69.3	78.6	16.3	62.3	64.6	0.550	61.6	77	NNW and NW ...	67	"	Partially cloudy, o	
"	13th	130.3	8.6	29.983	66.8	78.0	19.8	58.2	60.6	0.448	55.8	70	NNW and NW ...	33	"	Chiefly clear, o.	
"	14th	131.1	9.3	30.041	64.9	76.7	20.6	56.1	57.4	0.376	51.0	64	NNW and calm ...	36	"	Clear, o.	

The mean pressure of the seven days ... 29.913

The average pressure of the corresponding period for 24 years, Surveyor-General's Office ... 30.024

The total number of hours of bright sunshine ... 46.5

The maximum possible number of hours of sunshine ... 75.2

The mean temperature of the seven days ... 66.1

The average temperature of the corresponding period for 24 years, Surveyor-General's Office ... 68.2

The extreme variation of temperature ... 24.6

The maximum temperature ... 78.6

The highest velocity of the wind in one hour ... 8

The mean relative humidity ... 68

The average relative humidity of the corresponding period for 24 years, Surveyor-General's Office ... 71

The total fall of rain from 8th to 14th December 1895 ... Nil

The average fall of the corresponding period for 24 years, Surveyor-General's Office ... 0.03

The total fall from 1st January to 14th December 1895 ... 39.38

The average fall of the corresponding period for 24 years, Surveyor-General's Office ... 65.22

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph.

The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard Newman's No. 83, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

o, overcast; d, dew.

**SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS
TAKEN IN BENGAL FOR THE WEEK ENDING 8 A.M., SATURDAY,
THE 14TH OF DECEMBER 1895.**

THE meteorology of the past week has been remarkable from the fact that a small cyclonic storm has formed in the Bay and has advanced over a curved path into South-East Bengal. No similar storm at this late season of the year is on record. Indeed, during the present century only ten storms have been known to form in the Bay during December, and no single storm has ever been known to form in the latter half of the month. All the storms hitherto recorded have also advanced in a more or less westerly direction towards the Coromandel coast, usually crossing the coast line to the south of Madras. The great majority of the storms have also been fierce cyclones and usually of rather large size. Hence the occurrence of a storm nearly in the middle of the month, and of small size but fierce, and which has advanced from the south-east of the Bay over a large part of the Bay area into Bengal is almost unique.

From the very commencement of the week conditions in the east and south-east of the Bay were somewhat abnormal. Pressure was in considerable defect over the whole of Bengal and over the Bay, the defect ranging up to the large amount of a tenth of an inch at some of the Burma stations. On the 9th pressure had again fallen over almost the whole area, the fall being largest in the east of the Bay, and pressure became in defect by amounts ranging up to 0.15" at Diamond Island. Winds also commenced to strengthen on this morning at the Burma stations, while skies were becoming rather heavily clouded all round the Bay and at some of the Bengal stations. It was therefore probable that disturbed squally and unsettled weather was commencing in the south-east of the Bay, though perhaps the observations might equally well have pointed to the existence of a storm in the south-east of the Bay to the south-west of Diamond Island, which was beginning to advance northwards up the Bay. On the 10th pressure was rising in Burma and falling elsewhere over the Bay and in Bengal, and the observations pointed to the fact that the area of disturbed, squally and unsettled weather was moving across the Bay in a north-westerly direction, though again no certain indications could be obtained from the observations at the coast stations as to whether a cyclonic storm existed within the disturbed area or not. On the 11th pressure was falling rapidly at the central stations on the west coast of the Bay, and a rather severe barometric depression was approaching the Ganjam coast, and it is clear that at this time a small but fierce and very definite cyclonic storm occupied the centre of the depression. At 8 A.M. of the 11th the centre of the small storm appeared to be some distance from the coast and about south-east of Gopalpur, and the storm had therefore probably moved in a north-westerly direction during the previous twenty-four hours with slow or moderate velocity.

Conditions during the next twenty-four hours showed an extraordinarily rapid change. The storm during the 11th underwent apparently a rapid increase in intensity, for the indications at the coast stations became much more pronounced and severe. At 2 P.M. on the 11th the storm centre had approached tolerably near to Gopalpore and was to the east south-east of that station and had therefore continued its north-westerly advance. The storm then ceased to advance towards the coast, and as frequently happens with storms which occur late in the year, or at the close of the south-west monsoon season, it rapidly recurved, and immediately commenced to advance with greatly increased velocity in a north-easterly direction. At 8 P.M. of the 11th the centre of the storm was to the south south-east of Saugor Island, and at 2 A.M. of the 12th it was some little distance to the south-west of Chittagong. The storm must therefore have advanced over roughly some 350 to 400 miles in the space of twelve hours from 2 P.M. of the 11th to 2 A.M. of the 12th, or at the rate of at least 30 miles an hour. This is a most exceptional speed for a fierce cyclonic storm occurring at this season of the year, if it is not indeed quite unique in its way.

The storm then continued in its north-easterly path, and at 5 A.M. of the 12th the centre was west-south-west of Chittagong and comparatively near to that station, and at this time a pressure of 29.535 inches only was reported at Chittagong, though the centre was still some distance away. Between 5 A.M. and 8 A.M. the centre of the storm had passed inland apparently between Chittagong and Noakhali, and at 8 A.M. it was well inland. The storm then commenced to break up in the hills to the north-east of Chittagong, or perhaps the storm may have travelled on into Sylhet and Cachar and then broken up in the hills.

The storm was apparently a very small one, but the exact size can only be ascertained when full observations have been received and worked out. It was certainly accompanied by very strong winds and particularly heavy sea in the Bay, and in its inland advance it gave heavy rain, Chittagong reporting 4.27 inches during the passage of the storm, and several stations in the Chittagong and Noakhali districts more than three inches, and again several stations in Backergunge, South Lushai Hills, etc., amounts of more than two inches of rain.

The storm gave heavily clouded skies, high humidity and generally low temperature for several days over a large part of the province of Bengal, and in some other districts beyond those immediately in the track of the storm a few light showers fell, but on the whole the influence of the storm was much less strongly felt than might have been expected, probably mainly because of the very small size of the area of strong winds.

After the storm had rapidly broken up, probably between the 12th and 13th, for on the morning of the 13th there was practically no trace of its existence, conditions rapidly reverted

to those normal for the season. An increase of pressure of about a third of an inch took place at some stations in South-East Bengal, and on the morning of the 13th the cyclonic circulation of winds disappeared and northerly winds began to reappear, and winds became lighter in force. Skies also began to clear, and on the 15th, or at the end of the week under review, very little trace of the existence of the severe storm remained, and weather was almost of normal north-east moonsoon character.

Pressure—Has, however, been largely in defect during the week, the defect being governed by the track of the storm. The general average defect for the week has equalled about 0·08" or 0·09, but at Noakhali it has equalled 0·134", at Chittagong 0·128" and at Comilla 0·126."

Temperature.—Owing to the clouded skies during the week and the rainfall in certain districts, temperature has been usually low, and there has been an average defect for the period in the mean of the province of 1·2°.

The actual average temperatures registered in the province and their variation from the normal values are, however, best seen in the table below, where the average temperature data for nine selected stations in different districts of the province are given:—

Table showing the excess or defect of the actual mean temperature from the normal for the week ending Saturday, the 14th December 1895.

	Normal mean maximum temperature for the week ending 14th December.	Actual mean maximum temperature for the week ending 14th December 1895.	Variation of actual mean from the normal.	Normal mean minimum temperature for the week ending 14th December.	Actual mean minimum temperature for the week ending 14th December 1895.	Variation of actual mean from the normal.	Normal mean daily temperature for the week ending 14th December.	Actual mean daily temperature for the week ending 14th December 1895.	Variation of actual mean from the normal.
Cuttack	82·0	78·8	-3·2	58·7	58·1	-0·6	70·4	68·5	-1·9
Calcutta	76·8	75·3	-1·5	57·5	57·4	-0·1	67·2	65·6	-1·6
Narayanganj	79·1	75·2	-3·9	58·6	58·8	+0·2	68·9	67·0	-1·9
Burdwan	78·2	76·6	-1·6	57·2	56·1	-1·1	67·7	66·3	-1·4
Patna	74·9	75·0	+0·1	51·2	50·2	-1·0	63·6	62·6	-1·0
Gaya	76·3	75·3	-1·0	51·0	49·9	-1·1	63·7	62·6	-1·1
Purnea	76·8			50·4			63·6		
Hazaribagh	71·8	69·9	-1·9	50·7	48·6	-2·1	61·3	59·3	-2·0
Darjeeling	60·1	51·9	+1·8	37·4	38·2	+0·8	45·8	45·1	+1·3

Rainfall.—An average fall of about an inch and a third has been recorded over East Bengal, but elsewhere the falls have been of no practical importance, though showers have occurred in Khulna, Jessore, Cuttack, &c., districts. In the division of East Bengal the largest average district falls have been Noakhali 3·66 inches, South Lushai Hills 3·31 inches, Chittagong 2·66 inches, Tippera 1·34 inches, and Backergunge 1·88 inches.

The following table gives the summary of the temperature and rainfall data of each of the six meteorological divisions of the province for the week ending Saturday, the 14th of December 1895:—

METEOROLOGICAL DIVISIONS.	TEMPERATURE.						RAINFALL.									
	Highest observed during week.	Lowest observed during week.	Averages for week.			Average mean of week above or below normal mean of week.	Of week.			Rainy days.			Since 1st of month.		Since 16th October 1895.	
			Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in week.	Normal average number in week.	Variation.	Average.	Normal average.	Average.	Normal average.
South-West Bengal	81·3	43·6	76·4	55·8	66·1	-1·2	0·01	0·04	-0·03	0·02	0·10	-0·08	0·01	0·17	1·32	2·06
North Bengal	79·3	46·3	75·1	52·2	64·3	-0·8	Nil	0·06	-0·06	0·00	0·13	-0·13	0·03	0·12	0·43	1·61
East Bengal	78·7	47·6	75·3	57·6	66·4	-0·9	1·29	0·04	+1·25	0·02	0·11	+0·81	1·33	0·31	1·88	2·95
Bihar	77·8	43·9	75·4	48·7	63·1	-1·4	Nil	0·07	-0·07	0·00	0·14	-0·14	0·10	0·08	0·25	1·13
Orissa	81·8	51·0	77·9	57·9	67·0	-0·6	Nil	0·18	-0·18	0·00	0·26	-0·26	Nil	0·36	3·32	3·68
Chota Nagpur	79·1*	45·9*	72·0*	48·7*	60·3*	-2·4*	Nil	0·09	-0·09	0·00	0·13	-0·13	0·03	0·12	1·85	1·17

* Daltonganj not included.

METEOROLOGICAL OFFICE, BENGAL,
The 17th December 1895.

A. PEDLER,
Meteorological Reporter to the Govt. of Bengal.

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 8th to 14th December 1895.

MONTH.	Date.	Pressure at 10 A.M. corrected and reduced to 32° Fahr.	TEMPERATURE.					HYGROMETRY.			Rainfall, past 24 hours.	
			Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.		Humidity at 10 A.M.
1895.		Inches.	°		°	°	°	°	Inches.	°	%	Inches.
December	8th	30.023	66.9	76.8	19.9	56.9	69.4	59.7	.386	51.8	54	Nil
"	9th	29.968	65.5	77.5	24.1	53.4	68.6	58.4	.356	49.6	50	Nil
"	10th	.943	66.5	76.4	19.8	56.6	69.2	60.9	.426	54.5	60	Nil
"	11th	.893	67.3	72.8	11.0	61.8	65.6	61.4	.491	58.4	77	Nil
"	12th	.868	70.9	79.6	17.5	62.1	72.0	66.4	.575	62.9	73	Nil
"	13th	30.041	68.7	79.2	21.0	58.2	70.6	62.5	.459	56.5	62	Nil
"	14th	.117	66.8	78.5	23.4	55.1	71.1	60.0	.372	50.8	49	Nil

The mean 10 A.M. pressure of the seven days	...	...	...	Inches.
The mean temperature of the seven days	...	...	...	67.5
The extreme variation of temperature	...	...	...	26.2
The maximum temperature	...	...	...	79.6
The mean 10 A.M. relative humidity of the seven days	...	...	...	61%
The total fall of rain from 8th to 14th December 1895	...	...	...	Nil
The daily mean temperatures are the crude means of maximum and minimum temperatures.				

METEOROLOGICAL OFFICE, INDIA,
The 16th December 1895.

C. LITTLE,
For Meteorological Reporter to the Govt. of India.

CIRCULAR AND EASTERN CANALS.

Approximate return of traffic for the week ending Saturday, the 14th December 1895, as compared with the corresponding week of the previous year.

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 14TH DECEMBER 1895.			WEEK ENDING SATURDAY, THE 15TH DECEMBER 1894.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy	635	62,600	985	1,116	67,625	971
Jute	282	1,22,450	2,097	375	1,57,695	2,847
Firewood	114	67,675	1,035	97	63,000	939
Other articles	653	1,40,725	2,128	901	2,39,957	3,766
Total	1,684	3,93,350	6,245	2,489	5,28,277	8,513

EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., Dacca, K.-D., AND ASSAM-BIHAR SECTIONS.)

Approximate Return of Traffic and Mileage for the week ended 7th December 1895, on 813 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	199,850	1,03,810 0 0	9,00,210 0	2,20,950 0 0	10,800 0 0	3,35,560 0 0	30,500	44,140	74,640
Or per mile of railway ...	246	123 0 0	1,118 0	272 0 0	2 0 0	7402 0 0	.....	.....	.....
For previous 22 weeks of half-year* ...	6,236,375	19,52,872 0 0	2,07,35,000 0	45,07,693 0 0	3,24,152 0 0	67,84,690 0 0	660,192	838,456	1,498,648
Total for 23 weeks ...	4,436,225	20,56,682 0 0	2,16,44,300 0	47,28,616 0 0	3,34,952 0 0	71,20,250 0 0	690,692	882,605	1,573,297
COMPARISON.									
Total for corresponding week of previous year ...	215,911	99,540 0 0	10,26,219 0	2,11,575 0 0	20,104 0 0	3,31,219 0 0	30,525	44,001	75,126
Per mile of railway corresponding week of previous year ...	266	123 0 0	1,262 0	260 0 0	2 0 0	384 0 0	.....	.....	.....
Total to corresponding date of previous year ...	4,118,585	19,45,136 0 0	2,14,89,611 0	45,31,622 0 0	4,39,601 0 0	69,16,359 0 0	672,506	875,374	1,547,880

* Audited up to 19th October 1895.
† Excluding steamer earnings.

BENGAL CENTRAL RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 7th December 1895, on 125 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	31,700	12,950 0 0	64,980 0	5,590 0 0	50 0 0	18,560 0 0	3,810	2,902	6,712
Or per mile of railway ...	254	104 0 0	520 0	44 0 0	.....	148 0 0	.....	.....	.....
For previous 22 weeks of half-year* ...	707,156	2,40,686 0 0	19,46,107 0	1,90,468 0 0	4,808 0 0	4,35,992 0 0	82,506	64,723	147,229
Total for 23 weeks ...	738,856	2,53,636 0 0	20,11,987 0	1,95,968 0 0	4,858 0 0	4,54,462 0 0	86,316	67,626	153,942
COMPARISON.									
Total for corresponding week of previous year ...	36,286	11,905 0 0	51,186 0	4,106 0 0	128 0 0	16,139 0 0	3,810	2,174	5,984
Per mile of railway corresponding week of previous year ...	290	95 0 0	409 0	33 0 0	1 0 0	129 0 0	.....	.....	.....
Total to corresponding date of previous year ...	701,133	2,31,756 0 0	19,50,301 0	1,23,383 0 0	4,944 0 0	3,60,083 0 0	85,978	62,823	148,801

* Audited up to 19th October 1895.

DACCA STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 7th December 1895, on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	21,750	7,750 0 0	42,600 0	4,720 0 0	120 0 0	12,590 0 0	2,396	2,508	4,904
Or per mile of railway ...	253	90 0 0	495 0	55 0 0	1 0 0	146 0 0	.....	.....	.....
For previous 22 weeks of half-year* ...	452,678	1,52,607 0 0	8,00,775 0	75,824 0 0	4,982 0 0	2,33,413 0 0	56,457	28,559	85,016
Total for 23 weeks ...	474,428	1,60,357 0 0	8,43,375 0	80,544 0 0	5,102 0 0	2,46,063 0 0	58,853	31,067	89,920
COMPARISON.									
Total for corresponding week of previous year ...	20,877	8,775 0 0	68,579 0	6,524 0 0	202 0 0	15,501 0 0	2,396	2,442	4,838
Per mile of railway corresponding week of previous year ...	312	102 0 0	797 0	76 0 0	2 0 0	180 0 0	.....	.....	.....
Total to corresponding date of previous year ...	347,839	1,50,540 0 0	8,08,485 0	72,319 0 0	4,857 0 0	2,27,716 0 0	60,563	33,124	93,627

* Audited up to 19th October 1895.



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, DECEMBER, 25, 1895.

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REPORT ON THE WINTER RICE CROP OF BENGAL, 1895.

THE following is published for general information.

REV. DEPT.,
The 20th December 1895.

C. E. BUCKLAND,
Secy. to the Govt. of Bengal.

DEPARTMENT OF LAND RECORDS AND AGRI- CULTURE, BENGAL.

Final report on the winter rice crop of Bengal, 1895.

1. *Explanatory.*—In the district returns appended to this note, the estimates given for Champaran in the preliminary forecast issued last October, have been reproduced in the absence of any later return from the Collector.

2. *Character of the season.*—The character of the season up to September last was described in the first forecast of the winter rice crop issued in October. Up to that time, the distribution of rainfall, though less favourable than that of the corresponding period of the previous year, was not considered so deficient as to affect the prospects of the winter rice crop materially. In the month of May, the rainfall was less than the normal in South-West Bengal, in parts of North Bengal, in South Bihar, Orissa and Chota Nagpur; but in the Rajshahi, Jalpaiguri, Darjeeling and Pabna districts of North Bengal, in East Bengal and in North Bihar, was above the normal.

In June, the rainfall was abnormal. In East and North Bengal, the fall was less than half the normal; in West and Central Bengal and in parts of Bihar, it was deficient; but Chota Nagpur generally received the normal amount of rain, and Orissa double the usual amount of rain.

In July, the rainfall was deficient in Central and South-West Bengal except Bankura, in South Bihar except Shahabad, in Orissa and in parts of Chota Nagpur. In Northern Bengal, North Bihar and the Bhagalpur Division, the rainfall in this month was above the normal.

In August, Bihar and Orissa received sufficient rain, but in South-West, East and North Bengal except Darjeeling and Jalpaiguri, and in Chota Nagpur, rain was deficient.

In September, the rainfall was below the normal in every district except Rangpur, Bogra, Saran, Champaran and Puri.

In October, it was also deficient except in Burdwan, Jessore, Khulna, Faridpur, Backergunge, Tippera, Chittagong, Cuttack, Manbhum and Singhbhum. Almost all the rain received in East Bengal in October fell during the first three days of the month and was due to a cyclonic storm.

In the first week of November, no rain fell in South-West Bengal and Chota Nagpur, and there were only a few light scattered showers in other parts of these Provinces. In the second week, showers fell in Darjeeling and over parts of East Bengal. In the other districts, there was no rainfall. In the last fortnight of November, the whole of these Provinces was practically rainless.

3. *Area cultivated.*—The total area in Bengal, cultivated with winter rice this year, appears from the estimates returned by District Officers to be 30,447,100 acres, against 31,416,100 acres cultivated in 1894. This gives a decrease of 3·08 per cent. in the cultivated area, which is due to want of rain at the time of sowing. The contraction of area is especially noticeable in the districts of the Burdwan and Presidency Divisions. It would seem, however, that the cultivated areas in Burdwan and Bankura, which show a decrease this year of 32·4 per cent. and 37·9 per cent. respectively, as compared with the corresponding figures of last year, must have been under-estimated.

Northern Bengal, taken as a whole, shows an increase of 6·5 per cent. in the area cultivated this year over last

year. In Rangpur alone, the Collector shows an increase of $2\frac{1}{2}$ lakhs of acres, which is improbable; the estimate of area cultivated in 1894 was probably too low.

4. *Character of the crop.*—It will be seen, on reference to

- (a) Dinajpur and Tippera.
- (b) Rangpur, Pabna and Balasore.
- (c) Birbhum, Midnapore, Rajshahi, Jalpaiguri, Darjeeling, Bogra, Dacca, Mymensingh, Faridpur, Backergunge, Noakhali, Chittagong, Saran, Champaran, Purnea, Malda, Cuttack, Angul and the Khondmals, Puri and Singhbhum.
- (d) Bankura, the 24 Parganas, Jessore, Khulna, Patna, Gaya, Shahabad, Muzaffarpur, Darbhanga, Bhagalpur, Sonthal Parganas, Hazaribagh, Lohardaga, Palamau and Manbhum.
- (e) Burdwan, Hooghly, Nadia, Murshidabad and Monghyr.

the district returns appended to this note, that, out of the 45 districts of these Provinces, only 2 districts (a) report crops above the average of 16 annas, 3 districts (b) report average or 16-anna crops, 20 districts (c) report crops varying from 12 to less than 16 annas, 15 districts (d) report crops from above 8 to less than 12 annas, and 5 districts (e) return an 8-anna or less than an 8-anna crop. The worst crop returned for any district as a whole is that of Burdwan, which is estimated

at 6 annas only. The worst crop returned for any subdivision is that of Jhenida in Jessore which is estimated at 3 annas only; the Kalua, Kushtia, Meherpur and Jamui subdivisions only return 4-anna crops.

A comparison of the present estimates of outturn with the estimates given in the preliminary forecast shows that 2 out of the 45 districts, viz., Birbhum and Midnapore report better crops, 14 equal crops, and 29 worse crops.

On the whole, therefore, the outturn will not be nearly as good as was anticipated by District Officers when they furnished their returns in September last. This is due to the early cessation of the rains. The absence of the *Hathia* or October rain has much injured the prospects of the rice crop in Bihar.

Floods did some damage in Jalpaiguri, Pabna, Dacca and Faridpur, and the crops were also injured to some extent in Dacca, Faridpur and Tippera by a cyclonic storm in the first week of October.

The arithmetical mean of the anna estimates of outturn returned by District Officers, reckoned with reference to areas, gives a 12·2 anna crop for these Provinces as a whole; but allowing for a tendency, on the part of District Officers to under-estimate the outturn, especially in a year of deficient rainfall, and comparing the rainfall returns of the last season and estimates of outturn of this year, with corresponding reports and estimates of previous years, the crop of this year may be expected to give nearly the same outturn as the crop of 1892, and may probably be safely estimated at 13 annas. In parts of South Bihar; in the Jamui subdivision of Monghyr and in parts of all the districts, except Birbhum, in the Burdwan and Presidency Divisions, some vigilance is called for on the part of the District Officers; but, considering the good harvest of last year, and the facilities for importation, which the districts enjoy, where the crops have been short this year, there need probably be no fear of serious distress.

5. *Prices.*—Annexed will be found a statement showing the prices of common rice for the fortnights ending 31st October, 15th November and 30th November 1895, as compared with the prices in the corresponding fortnights of 1894, in the case of those districts, where the crop this year has been estimated at 8 annas or less than 8 annas. So far as prices are a criterion of impending distress, it will be seen that there is not much cause for anxiety at present. The fortnightly returns do not show much variation in the prices of other common food-grains.

6. *Gross outturn.*—Owing to the absence of reliable estimates of average outturn to the acre of winter rice, no attempt has been made to furnish estimates of outturn district by district. As in former years, the outturn of rice in cwts. has been obtained for the Province, as a whole, by multiplying the total area cultivated by 15 maunds, or by $15 \times 82\frac{1}{2}$ lbs., which has been assumed to be the average yield of cleaned rice to the acre, in the case of the winter rice crop, and then by reducing the outturn obtained by $\frac{1}{18}$ ths which is the estimate in annas of the outturn for the year. The gross outturn of cleaned rice, thus obtained, amounts to 272,625,800 cwts., against 367,856,900 cwts. estimated to have been produced in 1894. It will be understood, that it is only claimed for this estimate of outturn, that it may be a very rough approximation to the truth.

N. N. BANERJEE,

*Assistant Director of Land Records
and Agriculture, Bengal.*

W. C. MACPHERSON,

*Director of Land Records
and Agriculture, Bengal.*

CALCUTTA,

The 10th December 1895.

APPENDIX I.
Final Report on the Winter Rice Crop of Bengal, 1895.

1	2	3	4	5	6	7	8	9	10	11	
DISTRICT.			Total area of subdivision in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 16 annas to represent the average outturn, how many annas represented outturn last year?	Taking 16 annas to represent the average outturn, how many annas will represent this year's outturn?	Remarks by District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
	Subdivision.										
Burdwan	Sadar	..	794,880	635,500	434,300	434,200	217,100	Annas. 15	Annas. 6	Burdwan, Satgachi, and Jamalpur have been benefited by canal water, and the rest have improved by the rain in October last. Insufficient rainfall of the current year will cause a decrease in the outturn by eight annas. In the preliminary forecast, the average outturn was estimated at eight annas, but continued deficient rainfall affected some of the cultivated lands to the extent of two annas, hence the decrease in the present return. The decrease in the yield is due to insufficient rainfall.	
	Kalna	..	276,450	224,000	128,000	128,000	96,000	12	4		
	Katwa	..	225,350	109,600	140,800	140,800	105,500	16	6		
	Raniganj	..	429,440	254,700	225,300	225,300	109,000	16	6½		
Brdham	District Total	..	1,796,080	1,253,800	928,400	925,300	587,700	15½	6	The figures in column 7 in the preliminary forecast were incorrect as less land has been cultivated this year. The figures were entered by mistake and should have been the same or below that now given. There was not sufficient rain at the time of transpiration. Some of the high lands have been left uncultivated. The rain at the latter part of October which fell throughout the district has much benefited the crops, and the final estimated outturn has been increased to 12 annas at Sadar and 13 annas at Rampurhat subdivision.	
	Sadar	..	709,120	900,000	413,000	413,000	320,300	18	12		
	Rampurhat	..	412,800		241,000	241,000	150,000	18	13		
	District Total	..	1,121,920	900,000	654,000	654,000	510,300	18	12½		

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivision in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 16 annas to represent the average outturn, how many annas represented outturn last year?	Taking 16 annas to represent the average outturn, how many annas will represent this year's outturn?	Remarks by District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
Bankura	Sadar	1,229,440	498,800	364,800	364,800	507,700	Annas, 18	Annas, 10	The deficiency in the rainfall affected the cultivation and outturn of the crop considerably everywhere specially in the Vishnupur subdivision where a large area of rice-producing land depends entirely for its moisture on the rainfall of the year.	
	Vishnupur	448,000	214,000	185,400	185,000	70,000	16	7		
	District Total	1,677,440	642,800	550,400	549,800	577,700	17½	9½		
Midnapore	Sadar	2,120,060	1,492,100	760,640	748,900	700,000	17	13	Since the submission of the first forecast, some 10,000 acres were brought under cultivation in the Contai subdivision. Both at the Sadar and Contai subdivisions the outturn has been a little better than was anticipated before. In Tamul and Ghatal and especially at the latter subdivision, the outturn will be far less than last year. The lands could not be brought under cultivation for want of rain, and where cultivated they were blighted. In the Sadar and Contai subdivisions and partly in Tamul, the rain of September and October brightened the prospects to a certain extent. Had it not been for this rainfall, there would have been a total failure of crop in many places. The insufficiency of rainfall is the cause of the decrease in the outturn.	
	Tamluk	386,400	278,600	230,600	230,500	179,000	14	10		
	Contai	548,360	486,500	369,700	315,000	410,000	14	10		
Hooghly	Ghatal	235,080	146,500	131,800	121,000	85,800	15	6		
	District Total	3,292,800	2,111,500	1,501,000	1,435,400	1,375,400	15	13		
	Sadar	282,800	176,800	141,400	141,400	62,000	16	6		
Hooghly	Serampore	219,230	160,000	100,500	95,000	40,000	14	10		
	Jahansbad	238,500	167,700	83,800	80,000	75,200	16	6		
	Howrah	110,720	69,800	60,800	32,100	32,700	15	9		
Hooghly	Ulubaria	215,680	128,000	106,800	90,000	67,000	16	8		
	District Total	1,087,340	703,300	495,300	446,500	276,800	15	8		

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivision in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 16 annas to represent the average outturn, how many annas represented outturn last year?	Taking 16 annas to represent the average outturn, how many annas will represent this year's outturn?	Remarks by District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
Khulna	Sadar	1,006,536	295,400	295,600	228,600	228,600	Annas, 17	Annas, 10	The decrease in this year's area as compared with the normal area is in Satkhira alone, and is owing to deficient rainfall. The Sub-divisional Officer's estimate of decrease is 22,400 acres, instead of 32,400 shown in the preliminary forecast, for which he has given no explanation. The decrease in outturn is owing to the deficient and want of timely rainfall.	In the Census Report of 1891 the area of the district has been shown as 1,325,250 acres.
	Satkhira	814,613	260,500	292,400	232,400	210,000	17	10		
	Bagerhat	965,523	277,100	214,100	214,100	214,100	17	14		
	Area of boundary Khulna and rivers of the Sundarbans in this district.	317,440	.....	.....	.....	.....	.....	.....
	District Total	3,103,943	870,000	675,100	675,100	652,700	17	11½		
Rajshahi	Sadar	251,769	328,700	190,300	190,800	187,800	18½	12	The decrease in the area as well as in the outturn is due to deficiency of rain which stopped the progress of cultivation, especially on high lands.	
	Natore	635,020	402,100	249,300	186,700	189,700	16	14		
	Naugach	985,920	297,100	254,300	232,500	233,500	16	10		
	District Total	1,872,709	1,027,900	672,300	612,700	601,000	17	12		

Dinajpur...	Sadar ... Thakurgaon ...	2,080,640 554,880	1,377,400 367,400	1,000,400 218,100	1,005,400 218,100	1,005,400 218,100	12 12	20 16	The increase in the outturn is due to the proper distribution of rain.
	District Total ...	2,035,520	1,745,000	1,308,500	1,233,500	1,233,500	12	19	
Jalpaiguri	Sadar ... Alipur ...	1,072,000 823,680	537,500 447,400	312,400 190,900	581,800 151,700	597,400 151,700	14 13	14 13	Decrease in estimated area and in outturn is due to heavy rains and floods.
	District Total ...	1,895,680	1,004,900	472,300	433,700	459,100	13	13	
Darjeeling	Whole district ...	744,960	189,400	67,800	69,100	69,100	14	14	Owing to seasonable rainfall the outturn is expected to be better than that of last year.
Rangpur ...	Sadar ... Kishoreganj ... Gaibandha ... Nilphamari ...	730,240 599,680 486,400 414,720	485,800 468,900 371,200 275,800	395,100 234,500 281,600 92,800	595,600 117,000 234,700 80,000	565,100 234,500 253,000 90,000	14 14	16	It is improbable that there has really been an increase of 21 lakhs of acres of cultivation in Rangpur; and probably the area cultivated in 1894 was under-estimated.
	District Total ...	2,231,040	1,602,700	974,000	691,700	942,500	14	16	
Bogra ...	Whole district ...	923,280	421,000	280,000	300,000	330,000	18	12	For utter want of rain since the beginning of October 1895, the growth of the plants which seemed promising in early September was much retarded, and therefore a better outturn cannot be expected.
Pabna ...	Sadar ... Sirajganj ...	564,480 613,480	425,000 419,500	330,000 300,000	400,000 216,200	409,000 216,200	14 17	16 16	The crop in the char lands was destroyed by the sudden rise of flood water, but it was harvested by crops above the average in high ash land.
	District Total ...	1,177,960	885,500	650,000	695,200	655,200	15	16	

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivision in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 16 annas to represent the average outturn, how many annas represented outturn last year?	Taking 16 annas to represent the average outturn, how many annas will represent this year's outturn?	Remarks by District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
Dacca	Sadar	810,240	405,100	243,500	243,100	243,500	16	14	The decrease in the outturn as compared with the previous year is due to (1) scanty rainfall at the time of growing, (2) sudden rise of the rivers, (3) cyclone of 2nd October 1895, and (4) sudden fall of rivers in October.	
	Manikganj	312,959	234,300	202,200	180,000	180,000	14	8		
	Munshiganj	247,040	128,000	61,000	61,000	61,000	14	16		
	Narainganj	410,240	230,400	70,400	60,000	60,000	16	12		
District Total		1,780,480	867,700	577,100	553,100	553,500	15	12½		
Mymensingh.	Sadar	1,153,320	607,000	282,200	282,200	282,200	15	10	The outturn will be less than that of last year owing to the want of rain during the latter part of October and first part of November.	
	Netrakona	888,960	284,500	180,000	180,000	180,000	16	10		
	Kishoreganj	476,160	254,000	135,200	135,200	135,200	14	14		
	Jamalpur	824,000	627,200	304,000	304,000	304,000	16	16		
	Tangail	679,040	555,000	205,000	205,000	205,000	16	14		
District Total		4,052,480	2,405,700	1,106,400	1,106,400	1,106,400	15½	13		

Faridpur...	Sadar ...	550,400	385,300	280,000	280,000	280,000	16	14	The outturn this year is worse owing to (1) floods being lower and of less duration than in last year, (2) untimely and insufficient rainfall during the sowing season, (3) damage done by early floods to some low tracts in thanas Kotwali and Ainpur, and (4) storm on the 1st and 2nd October, which damaged the crop of Madaripur subdivision to the extent of four annas.
	Madaripur...	686,160	416,800	320,000	320,000	324,000	20	16	
	Goalundo ...	273,920	206,400	137,000	137,000	137,000	16	12	
	District Total ...	1,460,480	1,007,500	750,000	737,000	741,000	18	14	
Backergunge.	Sadar ...	711,040	446,760	256,000	256,000	256,000	16	14	The prospects are very poor owing to deficient rainfall.
	Patuakhali ...	787,840	330,200	224,000	224,000	224,000	16	16	
	Pirojpur ...	442,880	329,100	236,800	236,800	236,800	16	14	
	Bhola ...	385,000	256,100	160,000	160,000	160,000	16	10	
	District Total ...	2,335,360	1,343,200	876,800	876,800	876,800	16	13½	
Tippura ...	Sadar ...	730,880	547,800	339,400	339,400	345,300	20	16	The outturn is worse than that of last year owing to bad distribution of rainfall. Some damage, though slight, was done by a cyclonic storm in October. Since then there has been too little rain.
	Brahmanbaria ...	492,160	353,960	250,000	250,000	250,000	18	16	
	Chandpur ...	371,200	265,600	192,000	192,000	192,000	20	18	
	District Total ...	1,594,240	1,167,360	65,000	80,400	787,300	19½	16½	

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivision in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 10 annas to represent the average outturn, how many annas represented outturn last year?	Taking 10 annas to represent the average outturn, how many annas will represent this year's outturn?	Remarks by District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
Noakhali	Sadar	530,720	640,600	426,200	400,000	426,200	Annas. 16	Annas. 10	On account of insufficient rain throughout the year, the outturn has fallen much below the average.	
	Fenny	222,080	178,800	137,900	137,900	137,900	20	14		
	District Total	1,032,800	818,800	564,100	537,900	564,100	17	13		
Chittagons	Sadar	1,023,981	418,000	450,700	400,700	400,700	18	14	The decrease in the outturn is due to insufficient and want of timely rainfall this year.	From the Census Report of 1891, it appears that the area of the district is 1,690,320 acres.
	Cox's Bazar	571,560	90,600	85,400	83,200	85,400	18	14		
	District Total	1,594,841	508,600	485,900	483,900	485,900	18	14		

[illegible]

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivision in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 16 annas to represent the average outturn, how many annas represented outturn last year?	Taking 16 annas to represent the average outturn, how many annas will represent this year's outturn?	Remarks by the District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
Saran	Sadar	639,540	561,500	144,000	144,000	144,000	Annas. 20	Annas. 12	The outturn will be worse than that of last year and the first estimate, owing to the absence of the <i>kathya</i> rain in October.	Return not received. Figures of the preliminary forecast have been reproduced.
	Siwan	839,500	450,000	179,000	195,000	180,000	16	10		
	Gopalganj	807,520	371,000	117,000	117,000	117,000	16	14		
	District Total	1,697,920	1,382,500	431,000	456,000	441,000	17½	12		
Champaran	Sadar	971,520	654,000	329,000	329,000	229,000	15	15	Return not received. Figures of the preliminary forecast have been reproduced.
	Bettiah	1,988,320	708,000	448,000	448,000	448,000	14	16		
	District Total	2,959,840	1,422,000	677,000	677,000	677,000	14½	15½		
Muzaffarpur.	Sadar	779,880	614,000	272,000	272,000	272,000	13	10	Owing to the want of rain towards the latter part of the rainy season, viz. in September and October, the crop on high lands has been almost entirely lost, whilst that on low lands has also suffered to a certain extent, and hence the outturn is less than normal as well as less than that of the last year.	
	Hajipur	493,440	338,000	138,000	138,000	138,000	11	9		
	Sitamarhi	648,000	403,000	320,000	320,000	320,000	14	12		
	District Total	1,921,320	1,446,000	725,000	722,000	722,000	13	10½		

Darbhanga	Sadar ...	782,050	594,600	375,000	251,300	251,300	251,300	10	The failure of rain in <i>Kachya</i> <i>achhara</i> and the entire absence of rain in October have caused considerable injury to the rice crop and reduced the estimated outturn shown in the preliminary forecast. I have enquired into Samastipur figures locally and have altered the forecast.
	Samastipur ...	488,900	381,000	186,800	125,000	125,000	125,000	10	
	Madhubani ...	863,300	834,500	651,700	605,000	605,000	605,000	12	
	District Total ...	2,134,400	1,820,100	1,192,500	1,011,300	1,011,300	1,011,300	11½	
Monghyr	Sadar ...	997,760	698,500	279,000	279,000	279,000	279,000	12	Owing to scanty and untimely rain, the outturn is much less this year than that of the last year.
	Jamui ...	1,019,320	515,300	394,300	364,000	364,000	364,000	12	
	Begusarai ...	402,100	359,300	14,700	14,600	14,700	14,700	12	
	District Total ...	2,509,440	1,583,800	658,000	657,600	657,600	657,600	7½	
Bhagalpur	Sadar ...	597,760	464,000	250,000	250,000	250,000	250,000	12	The poor outturn in column 9 is due to insufficient rainfall during September and October 1895.
	Banka ...	756,480	583,000	327,400	327,400	327,400	327,400	11	
	Madhipura ...	732,600	598,000	318,800	318,800	318,800	318,800	12	
	District Total ...	2,704,640	2,067,000	1,298,200	1,298,200	1,298,200	1,298,200	11½	
Purnea	Sadar ...	1,645,440	790,000	280,000	282,000	282,000	282,000	10	Much damage has been caused to the crops on account of insufficient rainfall, hence this low outturn.
	Kishanganj ...	861,440	530,000	240,000	240,000	240,000	240,000	12	
	Araria ...	685,640	410,000	320,000	320,000	320,000	320,000	14	
	District Total ...	3,196,520	1,730,000	840,000	842,000	842,000	842,000	12	

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivision in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 16 annas to represent the average outturn, how many annas represented outturn last year?	Taking 16 annas to represent the average outturn, how many annas will represent this year's outturn?	Remarks by District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
Malda ..	Whole district ..	1,216,000	811,500	265,000	265,000	265,000	Annas. 16	Annas. 12	This year the outturn is expected to be not more than 12 annas owing to the scanty rainfall at the time of sowing and afterwards.	Sufficient rain did not fall at the time of sowing. There was also want of intermediate rain, consequently the outturn will be poor.
	Dumka ..	914,520	422,200	181,800	181,800	181,800	18	12		
	Deochar ..	610,500	165,100	69,100	65,000	65,000	16	8		
	Goddia ..	618,880	432,900	74,300	74,300	40,000	16	8		
	Jamtara ..	445,440	124,800	64,000	64,000	48,000	20	10		
	Pakour ..	437,120	327,000	202,400	202,400	202,400	20	10		
Cuttack ..	Rajmahal ..	473,600	353,300	243,800	243,000	243,000	12	13	Annas. 10	Annas. 14
	District Total ..	3,500,160	1,827,200	895,400	894,600	840,200	17	10		
	Sadar ..	901,120	558,100	389,400	358,700	341,900	16	14		
	Jajpur ..	706,560	320,700	288,000	288,000	288,000	11	16		
Cuttack ..	Kendrapara ..	643,200	410,200	327,700	298,000	300,000	12	16	Annas. 14	Annas. 14
	Banki ..	74,240	57,200	25,000	25,000	25,000	14	14		
District Total ..		2,325,120	1,161,200	1,028,100	967,700	923,900	13	15		

Balasore ...	Sadar ...	741,120	448,800	406,600	358,100	358,100	16	16	The increase in outturn is due to seasonable rain.
	Bladrak ...	581,284	382,100	300,800	300,800	300,800	13	16	
	District Total ...	1,322,404	837,100	710,400	658,900	658,900	14	16	
Angul and Khondmals.	Whole district ...	1,675,840	346,300	123,600	124,000	126,500	16	12	Early cessation of the rains in October injured the paddy crop grown on high level lands, and the average outturn has been estimated this year to be 12 annas.
Puri ...	Sadar ...	979,900	400,500	323,800	290,000	320,000	16	14	
	Khurda ...	695,940	331,500	180,800	180,600	180,600	16	16	
	District Total ...	1,675,840	812,300	504,600	500,600	500,600	16	14	
Hazaribagh	Sadar ...	2,628,000	1,653,300	603,000	605,000	605,000	16	12	The decrease in the estimate of outturn as compared with that of last year is due to insufficient rainfall.
	Girdih ...	1,565,440	813,200	448,000	448,600	448,600	16	8	
	District Total ...	4,193,440	2,478,500	1,114,600	1,114,600	1,114,600	16	10	

1	2	3	4	5	6	7	8	9	10	11
District.	Subdivision.	Total area of subdivision, in acres.	Total area estimated to be under cultivation in acres.	Approximate normal area under winter rice in acres.	Approximate area under last year's winter rice in acres.	Estimated area under this year's winter rice in acres.	Taking 16 annas to represent the average outturn, how many annas represented outturn last year?	Taking 16 annas to represent the average outturn, how many annas will represent this year's outturn?	Remarks by District Officers.	Remarks by the Department of Land Records and Agriculture, Bengal.
Lohardaga	Whole district ...	4,563,000	2,588,300	1,401,700	1,401,700	1,401,700	Annas. 16	Annas. 10	The decrease in the outturn is due to the insufficient rainfall in the latter part of the season.	
Palamu ...	Whole district ...	3,133,200	768,000	320,000	293,600	300,000	18 to 20	10	The outturn has been seriously affected for want of rain.	
Manbhum	Sadar ... Gobindpur ...	2,140,160 613,620	764,200 171,300	354,304 114,200	354,300 114,200	354,300 114,200	16 16	10 10	The decrease in outturn is due to insufficient rainfall from the beginning of the transplanting season.	
	District Total ...	2,554,080	905,500	468,500	468,500	468,500	16	10		
Singbhum	Whole district ...	2,401,920	1,152,100	835,200	830,300	895,200	14	14		
	Total for all Bengal	95,211,403	56,653,600	32,632,600	31,416,100	30,447,100	17*	13*	.....	* Estimated by the Department of Land Records and Agriculture.

N.B.—Twenty annas represent a bumper crop, 16 annas an average crop, 12 annas three-fourths of an average crop, and so on.

APPENDIX II.
Abstract statement of estimated acreage and outturn of the Winter Rice Crop, 1895.

PROVINCE.	ACREAGE.				OUTTURN IN CWT.										Remarks by the Department of Land Records and Agriculture, Bengal.
	Of current year's crop.	Of previous year's crop.	Normal.	Percentage by which column 2 exceeds (+) or falls short of (-) area in	Column 3.	Column 4.	Estimated yield of current year, i.e., of area in column 2.	Yield of area in column 2 at full standard rate.	Yield of previous year, i.e., of area in column 3.	Normal.	Percentage by which column 7 exceeds (+) or falls short of (-) outturn in				
											Column 8.	Column 9.	Column 10.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14		
Bengal	30,447,100	31,416,100	32,032,600	-3.08	-6.30	272,625,800	335,539,400	307,856,900	350,624,000	-18.75	-25.89	-24.19			

APPENDIX III.
Statement of rainfall from May to 16th November 1895.

DIVISION AND DISTRICT.	MAY 1895.		JUNE 1895.		JULY 1895.		AUGUST 1895.		SEPTEMBER 1895.		OCTOBER 1895.		UP TO 16TH NOVEMBER 1895.	
	Normal average.		Normal average.		Normal average.		Normal average.		Normal average.		Normal average.		Normal average.	
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Burdwan ...	4.57	4.27	8.76	7.40	11.36	9.45	12.48	8.00	7.57	6.08	3.33	3.38	0.23	.....
Birbhum ...	3.83	3.83	10.64	8.63	12.67	10.26	12.94	8.60	10.75	8.60	3.37	2.23	0.13	.....
Bankura ...	3.83	2.46	10.34	9.05	13.29	13.85	13.73	9.17	8.17	5.97	3.46	3.77	0.37	.....
Haldinore ...	3.20	3.20	9.46	10.56	13.33	7.41	13.87	8.54	8.68	5.97	5.29	4.20	0.30	.....
Hoochly ...	4.74	4.74	9.42	8.10	13.45	6.67	13.43	9.66	8.03	6.81	4.33	2.28	0.09	.....
Howrah ...	5.31	3.55	9.47	8.80	13.03	6.14	13.89	9.20	8.48	4.32	3.87	.....	0.25	.....
24 Parganas ...	5.71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nadia ...	5.62	4.03	10.15	11.13	13.15	6.44	13.17	9.33	9.55	5.47	5.27	4.27	0.20	0.01
Medinipur ...	6.37	6.32	9.72	6.17	13.24	6.76	13.03	7.51	8.59	4.32	4.21	3.03	0.26	0.01
Medinipur ...	5.26	1.89	9.13	5.39	10.88	7.81	11.88	6.76	10.40	8.16	4.22	1.60	0.18	0.01
Medinipur ...	6.90	8.90	11.77	7.50	10.19	7.55	11.73	8.23	8.58	4.65	4.24	5.15	0.19	0.03
Medinipur ...	6.61	9.18	13.23	9.10	12.86	7.77	12.35	9.44	9.54	7.73	4.72	9.15	0.24	.....
Medinipur ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medinipur ...	6.87	6.97	11.20	6.83	11.69	10.00	10.99	7.86	11.83	11.43	3.73	1.14	0.17	.....
Medinipur ...	6.10	4.93	13.62	6.43	13.13	15.86	12.92	12.08	11.32	9.24	3.55	0.30	0.03	0.05
Medinipur ...	11.93	19.37	28.46	7.64	25.64	48.90	24.94	3.60	25.33	10.42	5.60	1.66	0.08	0.39
Medinipur ...	10.85	16.07	29.11	16.79	34.83	39.39	27.15	38.40	18.64	16.75	6.06	3.22	0.23	.....
Medinipur ...	11.23	6.10	21.30	7.85	13.99	32.14	12.07	.....	13.44	16.75	4.89	1.30	0.06	0.07
Medinipur ...	7.79	6.86	12.77	6.47	12.76	13.14	11.63	8.79	10.38	11.51	4.40	0.53	0.27	0.03
Medinipur ...	7.11	8.78	11.15	5.79	10.75	7.64	12.00	9.69	10.45	7.79	4.59	1.92	0.19	.....
Medinipur ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medinipur ...	8.86	10.20	13.25	6.35	14.12	7.70	13.11	11.29	10.17	8.23	4.45	4.42	0.35	0.12
Medinipur ...	9.79	8.03	17.60	6.34	13.59	15.04	13.88	15.50	13.04	11.66	5.41	1.68	0.23	0.06
Medinipur ...	8.39	11.37	12.55	5.60	11.60	10.91	12.08	8.51	9.05	5.16	4.44	5.14	0.17	0.35
Medinipur ...	7.66	9.70	19.20	8.06	17.98	11.03	15.61	13.05	13.12	8.60	5.55	8.40	0.53	.....
Medinipur ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medinipur ...	14.11	16.45	16.45	7.06	13.82	8.55	15.97	14.02	11.35	9.80	5.11	8.29	0.33	0.12
Medinipur ...	10.13	27.32	25.27	14.21	25.27	19.87	24.67	24.60	16.76	16.76	6.37	5.69	1.09	0.06
Medinipur ...	10.00	10.51	29.63	14.08	31.06	24.92	23.45	18.10	14.32	13.24	6.66	9.44	1.11	0.19
Medinipur ...	10.13	17.83	18.91	9.99	19.04	12.68	18.44	18.94	12.72	9.06	7.01	6.29	1.18	0.36

	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Patna	2.09	0.93	6.24	6.99	11.93	10.33	9.87	10.33	7.04	5.38	3.25	0.56
Gaya	1.77	0.83	5.63	5.15	12.33	11.73	11.94	12.08	7.04	5.38	3.25	0.56
Shahabad	1.32	0.55	4.07	4.07	11.30	11.73	11.94	12.08	7.04	5.38	3.25	0.56
Saran	2.00	1.91	6.42	7.90	12.18	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Champan	2.59	3.90	8.19	10.69	11.37	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Muzaffarpur	2.46	2.86	7.43	6.03	11.43	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Darbhanga	2.63	2.69	8.03	3.15	11.59	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Monghyr	2.33	1.22	6.43	4.55	12.07	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Rasulpur	3.11	1.89	8.37	4.12	11.04	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Purnea	5.63	4.83	13.17	5.28	15.45	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Madia	4.49	2.17	11.86	4.34	11.99	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Sonhal Parganas	3.84	2.24	8.95	6.42	12.85	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Cuttack	3.59	1.72	9.66	20.48	12.31	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Basore	4.75	1.99	8.40	15.17	13.01	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Anant and Khond-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puri	2.72	1.60	8.42	21.60	11.99	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Hazaribagh	2.46	1.89	8.17	9.35	13.32	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Lohardaga	2.85	2.01	8.14	8.60	13.11	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Palaman	1.41	6.93	8.64	7.65	12.66	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Manbhum	2.77	2.81	8.93	7.71	12.07	12.33	12.33	12.08	7.04	5.38	3.25	0.56
Singbhum	4.17	0.95	8.30	10.98	14.27	12.33	12.33	12.08	7.04	5.38	3.25	0.56

APPENDIX IV.

Statement showing prices of common rice in districts where the winter rice crop of 1895 has been estimated by district officers at 8 annas or below 8 annas.

District.	Fortnight ending 31st October		Fortnight ending 15th November		Fortnight ending 30th November	
	1894.	1895.	1894.	1895.	1894.	1895.
1	2	3	4	5	6	7
Burdwan	S. CH.	S. CH.	S. CH.	S. CH.	S. CH.	S. CH.
Hoochly	16 14	15 12	16 0	15 8	16 8	16 0
Nadia	11 8	12 14	11 8	12 14	11 8	12 14
Murshidabad	12 7	14 13	12 10	14 3	12 10	13 6
Monghyr	14 0	15 0	14 0	15 0	14 0	15 8
	13 0	15 0	12 10	15 8	14 0	15 0

**STATEMENT SHOWING THE NATURE OF STORES PURCHASED
IN ENGLAND AND IN INDIA BY THE CIVIL DEPARTMENTS
DURING THE YEAR 1894-95.**

GENERAL DEPARTMENT—MISCELLANEOUS.

Calcutta, the 24th December 1895.

RESOLUTION—No. 4431.

READ—

The debate on the Provincial Service Budget for 1895-96, held in the Lieutenant-Governor's Council, on Saturday, the 30th March 1895, especially the remarks of the Hon'ble J. G. Womack on the subject of the purchase of stores in this Country and the late Lieutenant-Governor's reply.

Read also—

Letter from the Government of Bengal, General Department, No. 3062, dated the 12th September 1895, submitting to the Government of India, in the Finance and Commerce Department, the statement of expenditure on stores in the Civil Departments of this Presidency for the year 1894-95.

In his speech at the meeting of the Bengal Council on the 30th March 1895, referred to in the preamble, the late Lieutenant-Governor proposed to take steps to have a return prepared annually and laid before the Council to show the nature of the stores purchased in England and in India.

2. In fulfilment of the above promise, a Resolution was published, No. 4085A., dated 23rd July 1895, showing the cost of stores purchased in England by the Public Works Department of this Government, and the following statement which has been prepared in the General Department, shows the expenditure incurred in the Civil Departments during the year 1894-95 in the purchase of (1) stores manufactured in Europe and obtained through the Secretary of State for India; (2) stores manufactured in Europe, but purchased in India; and (3) stores manufactured in India and substituted for stores formerly imported through the India Office, London. In column 2 of the statement, articles on which more than Rs. 1,000 have been spent have been shown separately, all other items being grouped together under the head "Miscellaneous articles." The Superintendent of Stamps and Stationery alone takes any large quantity of goods from England, the value of the articles obtained by all other departments through the Secretary of State amounting to only Rs. 1,00,322. The Stationery Office is fully alive to the advantages of obtaining everything that is possible in this Country, as is shown by the large amount of goods now purchased here which were formerly imported through the India Office, London.

Statement showing the Expenditure on Stores incurred in the Civil Departments during 1894-95.

Department and description or class of stores.	Purchased through the Secretary of State for India.	European manufactured goods purchased in India by special permission.	Goods manufactured in India, and substituted for goods manufactured in Europe.
1	2	3	4
<i>Jail Department.</i>	Rs.	Rs.	Rs.
T. R. cambrie	7,387	.....	.....
Factory stores	9,967	.....	.....
Miscellaneous articles	1,603	.....	.....
Total	18,957	48,412	4,214

Department and description or class of stores.	Purchased through the Secretary of State for India.	European manufactured goods purchased in India by special permission.	Goods manufactured in India, and substituted for goods manufactured in Europe.
1	2	3	4
<i>Opium Department.</i>	Rs.	Rs.	Rs.
Coal pitch ...	4,892	.....	.....
Earthenware and porcelain ...	2,572	.....	.....
Hardware and cutlery ...	3,633	.....	.....
Iron ...	5,509	.....	.....
Tin ...	1,243	.....	.....
Steam-pumping engine ...	2,268	.....	.....
Miscellaneous articles ...	20,629	.....	.....
Total ...	40,746	840	4,130
<i>Education Department.</i> ...	143	Nil	6,205
<i>Stamps and Stationery.</i>			
Paper, drawing ...	40,013	.....	.....
" writing ...	34,989	.....	.....
" binding ...	1,424	.....	.....
" copying-press ...	6,726	.....	.....
" water-marked, for bills of exchange.	2,022	.....	.....
Parchment ...	21,256	.....	.....
Envelopes ...	5,106	.....	.....
Drawing materials ...	95,026	.....	.....
Water colours ...	9,205	.....	.....
Writing materials ...	67,663	.....	.....
Binding ..	89,122	.....	.....
Blank books ...	5,056	.....	.....
Press copying materials ...	11,072	.....	.....
Miscellaneous articles ...	42,474	.....	.....
Total ...	4,31,154	4,752	16,38,595
<i>District Officers</i> ...	Nil	1,709	Nil.
<i>Cinchona Factory.</i>			
Caustic soda ...	7,793	.....	.....
Galvanized iron ...	1,853	.....	.....
Tin plates ...	2,104	.....	.....
Miscellaneous articles ...	933	.....	.....
Total ...	12,683	5,202	Nil.
<i>Government Printing Department.</i>			
Types ...	3,556	.....	.....
Printing ink ...	3,077	.....	.....
Leather ...	1,368	.....	.....
Iron, Swedish ...	2,250	.....	.....
Envelope-cutting machine ...	1,027	.....	.....
Miscellaneous articles ...	10,674	.....	.....
Total ...	21,952	5,862	37,443

Department and description or class of stores.	Purchased through the Secretary of State for India.	European manufactured goods purchased in India by special permission.	Goods manufactured in India, and substituted for goods manufactured in Europe.
1	2	3	4
<i>Botanical Gardens.</i>	Rs.	Rs.	Rs.
Hardware and cutlery ...	3,100	.....	.....
Miscellaneous articles ...	1,745	.....	.....
Total ...	4,845	2,314	Nil
<i>Chemical Examiner</i> ...	996	Nil	490
GRAND TOTAL ...	5,31,476	69,091	16,91,077

ORDER.—Ordered that a copy of this Resolution be published in the Supplement to the next issue of the *Calcutta Gazette*.

Ordered, also, that a copy of this Resolution be forwarded to the Hon'ble J. G. Womack, and to the Bengal Chamber of Commerce, the Calcutta Trades' Association, and the Bengal National Chamber of Commerce.

By order of the Lieutenant-Governor of Bengal,

C. E. BUCKLAND,
Secretary to the Govt. of Bengal.

WEATHER AND CROP REPORT.

For the week ending the 23rd December, 1895.

Burdwan.—Rainfall nil. Weather fair. Harvesting of *aman* crop continues. Sowing of *rabi* crops nearly finished. Prospect of sugarcane favourable. Fodder and water sufficient. Condition of cattle good. Common rice sells at an average price of 16 seers a rupee.

Midnapore.—Rainfall nil. Weather cool. Prospect of indigo, linseed and sugarcane good. Harvesting of paddy continues. Prospect of *rabi* is not good owing to want of moisture. Common rice selling at—

					Srs.
Sadar	...	...	...	...	18
Contai	...	...	...	...	18 to 20
Tamluk	...	...	...	...	15
					} per rupee.

24-Parganas.—Rainfall nil. Weather bright and cool. Harvesting of *aman* continues. *Rabi* crops progressing fairly. Fodder sufficient, but water insufficient. No cattle-disease. Rice sells at—

					Srs. c.
Sadar	...	...	...	...	12 to 14 0
Barasat	...	...	...	...	15 0
Basirhat	...	...	...	...	14 3
Diamond Harbour	...	...	...	...	16 0
					} per rupee.

Murshidabad.—No rain. Weather seasonable. Harvesting of *aman* and *kalai* going on. Estimated outturn of *aman* 8 annas. *Rabi* crops suffering from want of rain. State of indigo and mulberry good. Fodder and water sufficient. Common rice sells at 14 seers a rupee.

Khulna.—Rainfall nil. Weather cold. Harvesting of *aman* going on. Standing crops doing well. Fodder sufficient, but water deficient in some places. Some cases of cattle-disease in thana Dumuria. Prices of common rice:—

	Srs.	c.	
Sadar	16 to 21 0
Bagerhat	17 8
Satkhira	14 3

Dinajpur.—No rain. Weather cold. *Rabi* crops are not good. Rice selling from 13 to 16 seers a rupee. No cattle-disease, nor any complaint for fodder and drinking water.

Rangpur.—No rain. Harvesting of *aman* going on. Rain wanted for standing crops. Prospects generally good. Common rice selling at 14 seers per rupee. Fodder sufficient.

Pabna.—Rainfall nil. *Aman* rice being reaped. All *rabi* crops promise well. Fodder sufficient.

Dacca.—Rainfall nil. Weather seasonable. Harvesting of *aman* going on; prospects fair. *Rabi* crops thriving. No cattle-disease. Fodder available. Price of common rice 15 seers per rupee.

Chittagong.—No rain. Weather seasonable. Harvesting of *aman* in progress; a poor outturn expected. *Rabi* sowings continue. Water and fodder sufficient. Rice sells at 15 seers per rupee.

Patna.—No rain. Harvesting of paddy progressing. *Rabi* crops doing well. Poppy in Bihar is better than last year, but not good. Condition of cattle good. Fodder and water sufficient. Common rice sells from 18 to 21 seers per rupee.

Gaya.—No rain. Paddy harvest and sugarcane pressing in progress. *Rabi* not doing well for want of moisture. Price of common rice at Sadar 17 seers per rupee against an average of 16 $\frac{1}{4}$ seers.

Champanan.—No rain. Weather cold. Harvesting of *aghani* and weeding of *rabi* and poppy continue. Prospects generally good. Common rice selling from 15 to 22 seers per rupee. Fodder and water for cattle sufficient.

Darbhanga.—No rain. Harvesting of paddy not yet completed. Absence of rain somewhat retarded the growth of *rabi* crops. Later poppy sowings doing well, but rain urgently wanted. Fodder sufficient. Common rice selling at 16 $\frac{1}{4}$ seers per rupee.

Bhagalpur.—No rain. Weather very cold. Harvesting of winter paddy still going on; estimated outturn 12 annas. Prospect of *rabi* not favourable in Madhipura and Supaul subdivisions, but good in Sadar and Banka subdivisions. No cattle-disease. Fodder reported scarce in Banka. Common rice sells at 18 seers 15 chitaks per rupee.

Purnea.—No rain. Harvesting of *aghani* and sowing of *rabi* going on. Pressing of sugarcane in progress. No cattle-disease. Fodder and water sufficient. Common rice sells from 18 to 24 seers a rupee.

Cuttack.—Rainfall nil. Weather seasonable. Harvesting of *sarad* in progress. Prospect of *mung* good. Condition of cattle good. Fodder sufficient. Common rice sells at—

	Srs.	c.	
Cuttack	23 10
Jajpur	31 8
Kendrapara	30 8
Banki	28 11

Hazaribagh.—No rain. Weather seasonable. Harvesting of *aman* nearly completed; average outturn 8 to 12 annas. Rain wanted for *rabi* crops. Prospect of poppy good. Fodder and water sufficient. Common rice selling at 13 to 16 seers per rupee.

General Summary.—There was no rain during the week. The harvesting of winter rice is proceeding; the outturn, except in Northern and parts of Eastern Bengal and in Orissa, will be below the average, and is estimated to be a thirteen-anna crop for the whole province. Prospects of the *rabi* crops continue generally good, but in parts of Central Bengal and Bihar and in Hazaribagh there is still lack of moisture. Poppy is doing well, but requires rain in Darbhanga. Indigo and sugarcane are good crops; the latter is being harvested in some districts. No cattle-disease except in one thana of Khulna. The price of common rice continues generally stationary.

By order of the Lieutenant-Governor of Bengal,

REVENUE DEPARTMENT,
The 24th December, 1895.

C. E. BUCKLAND,
Secretary to the Government of Bengal.

SEERS OF 80 TOLAHS.

BAJRA OR CUMBU. (<i>Pennisetum typhoides</i> .)			MARUA OR RAGI. (<i>Eleusine Corocana</i> .)		
Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.

S Ch. S. Ch. S. Ch. S. Ch. S. Ch. S. Ch.

...
...
...
...
...
...

...
15 3	15 3	15 3	...	...	...
...
...
...
...

...
...
...
...	...	...	12 0	11 0	14 0
...
...

...
...
...
...

KANGNI OR KAKUN, ITALIAN MILLET. (<i>Seta ria italica</i> .)	GRAM, CHANA, CHHOLA, KADALAY, OR SUNAGA. (<i>Cicer arietinum</i> .)
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Present return.	Next preceding re- turn.	re- Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	re- Corresponding re- turn of last year.
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S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.
--------	--------	--------	--------	--------	--------

...	16 8	16 14	16 0
...	16 0	16 0	9 12
...	14 0	14 4	16 0
...	14 8	14 8	16 0
...	16 0	16 0	14 0
...	...	...	14 8	13 0	...

...	...	...	14 0	13 0	16 0
11 0	11 0	10 0	15 3	14 14	15 9
...	...	...	17 13	17 13	18 4
...	...	...	19 0	19 0	16 0
...	...	...	15 0	16 0	16 0
...	...	...	11 8	11 8	11 8

...	...	...	17 4	19 8	15 0
...	...	...	12 4	12 4	13 4
...	...	...	14 8	14 0	15 0
...	...	...	12 0	12 0	11 0
...	...	...	14 0	16 0	16 0
...	...	...	15 0	13 8	13 8
...	...	...	15 0	15 0	13 8

...	...	...	13 0	13 8	14 0
...	...	...	12 8	12 8	12 8
...	...	...	14 0	16 0	13 0
...	...	...	14 0	14 0	11 13 1/2

Head-quarters Station Bazars of the Districts of Bengal on the 15th December 1895.

															WHOLESALE PRICES PER MAUND OF 40 SEERS.						DISTRICTS.	Number.								
INDIAN-CORN OR MAIZE. (Zea Mays.)			ARHAR OR THUR, CAJAN PEA. (Cajanus Indicus.)			FIREWOOD.			SALT.			SALT.																		
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.																
S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.						
...	16	4	16	8	12	0	90	0	90	0	120	0	11	8	11	8	3	5	0	3	5	0	Burdwan.	1				
...	10	8	10	8	12	0	162	0	162	0	120	0	10	8	10	8	3	10	6	3	10	6	Birbhum.	2				
21	4	21	0	...	...	...	11	8	11	8	13	5	320	0	320	0	10	0	3	8	6	3	8	0	3	10	0	Bankura.	3
...	17	8	17	8	11	0	250	0	248	0	200	0	11	8	11	8	3	6	0	3	6	0	3	9	0	Midnapore.	4	
...	12	0	12	0	10	0	160	0	160	0	160	0	11	8	11	8	3	8	0	3	8	0	3	10	0	Hooghly.	5	
...	10	0	11	0	11	0	105	0	105	0	105	0	11	6	11	0	3	4	0	3	3	6	3	8	0	Howrah.	6	
...	12	0	12	0	12	5	90	0	90	0	106	6	11	6	11	4	3	4	0	3	8	0	3	6	0	24-Parganas.	7	
16	13	16	13	20	0	14	8	14	8	16	0	85	5	80	0	85	0	11	3	3	9	0	3	8	0	3	5	0	Calcutta.	8
...	17	12	17	13	17	8	128	0	128	0	128	0	10	12	10	12	3	8	0	3	8	0	3	10	0	Nadia.	9	
...	18	0	18	0	16	0	190	0	190	0	180	0	11	0	11	0	3	6	0	3	6	0	3	6	0	Murshidabad.	10	
...	9	2	9	2	4	0	0	3	10	0	4	0	0	Jessore.	11	
...	11	0	11	0	11	0	160	0	160	0	160	0	10	12	10	12	3	8	0	3	8	0	4	0	0	Khulna.	12	
...	21	0	20	10	14	6	240	0	240	0	240	0	9	9	9	9	3	10	8	3	10	8	3	13	4	Rajshahi.	13	
...	120	0	120	0	120	0	10	0	10	0	3	8	0	3	8	0	3	10	0	Dinajpur.	14	
...	10	0	10	0	11	0	160	0	160	0	160	0	10	0	10	0	3	10	0	3	10	0	3	12	0	Jalpaiguri.	15	
16	0	18	0	22	0	8	0	8	0	8	0	120	0	120	0	8	0	8	0	4	10	0	4	8	0	4	12	0	Darjeeling.	16
...	11	4	11	8	9	0	40	0	40	0	60	0	9	4	9	0	3	14	0	4	0	0	4	0	0	Rangpur.	17	
...	90	0	90	0	90	0	9	12	9	12	4	0	0	3	12	0	4	0	0	Bogra.	18	
...	18	0	18	0	17	4	160	0	160	0	260	0	9	12	9	12	3	8	0	3	8	0	3	9	6	Pabna.	19	
...	16	8	16	8	15	0	110	0	110	0	140	0	10	0	10	0	3	10	0	3	10	0	4	0	0	Dacca.	20	
...	13	0	13	0	13	0	100	0	100	0	80	0	8	0	8	0	4	0	0	4	0	0	4	0	0	Mymensingh.	21	
...	11	6	11	6	8	0	160	0	160	0	120	0	10	10	10	10	3	12	0	3	12	0	3	14	0	Faridpur.	22	
...	85	0	90	0	80	0	10	8	10	8	3	7	6	3	8	0	3	4	0	Backergunge.	23	

K In the subdivisions the retail prices of salt per rupee are :—Bagerhat 8 seers and Satkhira 10½ seers.

L In the subdivisions the retail prices of salt per rupee are :—Nator 9 seers and Naugaon 9½ seers.

M In the Alipur Duar the retail price of salt is 8 seers per rupee.

N At Siliguri the retail price of salt is 9 seers per rupee.

O In the subdivisions the retail prices of salt per rupee are :—Nilphamari 9 seers, Gaibanda and Kurigram not reported.

P At Sirajganj the retail price of salt is 12 seers per rupee.

Q In the marts in the interior of the district the retail prices of salt per rupee are :—Manikganj 9 seers, Madanganj, Munshirhat and Mirkadinhat 11 seers 6 chitaks.

R In the subdivisions the retail prices of salt per rupee are :—Kishorganj 9 seers, Jamalpur 10 seers, Karghari 10 seers, and Netrokona 10 seers.

S In the subdivisions the retail prices of salt per rupee are :—Madaripur 11½ seers and Goalundo 11 seers.

T In the subdivisions the retail prices of salt per rupee are :—Pirojpur 8 seers, Patuakhali 9 seers, and Bhola 8 seers.

SEERS OF 80 TOLAHS.

BAJRA OR CUMBU. (<i>Pennisetum typhoides</i> .)			MARUA OR RAGI. (<i>Eleusine Corocana</i> .)		
Present return.	Next preceding re- turn.	re- Corresponding turn of last year.	Present return.	Next preceding re- turn.	re- Corresponding turn of last year.

S. Ch. S. Ch. S. Ch. S. Ch. S. Ch. S. Ch.

...
...
...

...	...	...	30 0	30 0	30 0
...	...	...	25 4	25 8	22 8
...
...	...	...	26 0	26 0	22 0
...	...	...	32 0	30 8	...
...
...	...	...	29 8	28	27 0

...	...	...	...	...	20 0
...
...
18 0	20 0	...	...	...	...
...

...
...
...

...	...	...	24 0	25 0	24 0
...	...	...	30 0	30 0	28 0
...	...	...	20 4	20	...
20 0	...	20 0	...	...	...
...

KANGNI OR KAKUN, ITALIAN MILLET, (<i>Setaria italica</i> .)			GRAM, CHANA, CHHOLA, KADALAY OR SUNAGA. (<i>Cicer arietinum</i> .)		
Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.

S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.
...	13	0	13	0	12	8		
...	12	0	12	0	11	8		
...	12	4	12	8	11	12		

25	0	25	0	20	0	20	8	21	0	19	0
16	4	15	8	12	8	18	8	19	0	18	8
...	...	...	...	{		19	0	19	0	{	
...	...	...	...			to	to	to	to		
...	...	...	...	20	0	20	0	20	0	16	0
16	0	16	0	14	0	19	0	19	0	16	0
...	...	...	...	...	...	20	8	20	8	17	0
...	...	...	...	...	...	16	0	16	0	14	0
17	8	...	...	...	...	18	0	19	12	16	6

13	0	12	4	16	0	18	0	18	0	17	8
...	...	...	...	...	...	18	15	19	8	17	11
...	...	...	...	...	...	16	0	16	0	16	0
13	0	13	0	13	0	15	0	15	0	14	0
...	...	...	...	...	...	14	0	16	0	14	0

Biri or kalai.											
...	...	...	...	17	1	17	1	14	7		
...	...	...	...	{		Chhola					
...	...	...	...			13	0	13	0	13	0
...	...	...	...	{		Biri or kalai.					
...	...	...	...			16	0	16	0	13	0
...	...	...	...	...	...	14	7	14	7	13	2

...	...	...	...	16	0	15	8	15	0		
...	...	...	...	{		13	0	12	0	12	0
...	...	...	...			to	to	to	to	13	0
...	...	...	...	15	12	14	10	12	6		
...	...	...	...	...	...	14	4	14	0	{	
...	...	...	...	...	...	15	0	15	0		
...	...	...	...	...	...	12	0	12	0	12	0

Station Bazars of the Districts of Bengal on the 15th December 1895—(concluded).

															WHOLESALE PRICES PER MAUND OF 40 SEERS.			DISTRICTS.	Number.
INDIAN-CORN OR MAIZE. (Zea Mays.)			ARHAR OR THUR, CADJAN PEA. (Cajanus indicus.)			FIREWOOD.			SALT.			SALT.							
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.					
S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	Rs. A. P.	Rs. A. P.	Rs. A. P.					
BENGAL—concluded.																			
...	...	...	8 0	8 0	10 0	...	...	...	10 0	10 0	10 0	3 14 0	3 14 0	4 0 0	Tippera.	24
...	...	...	...	...	...	...	...	...	10 0	10 0	10 0	3 12 0	3 12 0	3 12 0	Noakhali.	25
...	...	...	...	...	...	...	...	...	10 0	10 0	10 0	3 12 0	3 12 0	3 12 0	Chittagong.	26
...	...	...	...	...	...	...	...	...	10 0	10 0	10 0	3 8 0	3 8 0	3 10 0		
BIHAR.																			
27 0	26 0	24 0	20 8	20 0	17 0	130 0	130 0	130 0	11 0	11 0	10 0	3 6 9	3 6 9	3 8 0	Patna.	27			
23 4	22 12	21 4	18 0	18 0	18 0	140 0	140 0	140 0	10 10	10 10	10 8	3 12 0	3 12 0	3 11 0	Gaya.	28			
24 0	23 0	20 0	18 0	18 0	16 0	120 0	122 0	120 0	11 0	11 0	10 8	3 10 0	3 10 0	3 14 0	Shahabad.	29			
26 0	25 0	22 0	18 12	18 0	14 0	160 0	160 0	160 0	10 12	10 12	10 8	3 11 0	3 11 0	3 12 0	Saran.	30			
26 0	25 4	24 12	21 4	21 4	16 8	180 0	180 0	180 0	10 8	10 8	10 8	3 12 0	3 12 0	3 11 0	Champaran.	31			
23 8	25 0	23 0	20 0	20 0	14 0	160 0	160 0	160 0	11 0	11 0	10 0	3 10 0	3 10 0	3 9 0	Muzaffarpur.	32			
28 0	29 8	25 0	19 12	19 12	15 4	176 0	176 0	176 0	11 0	11 0	11 0	3 6 0	3 10 0	3 10 0	Darbhanga.	33			
26 0	26 0	20 0	16 8	17 0	15 8	126 0 to 168 0	126 0 to 168 0	126 0 to 168 0	10 8	10 8	10 0	3 7 0	3 7 0	3 8 0	Monghyr.	34			
26 8	26 8	22 11	17 10	17 10	15 12	151 8	151 8	151 8	10 11	10 11	10 1	3 12 0	3 12 0	4 0 0	Bhagalpur.	35			
25 0	...	...	16 0	15 0	14 0	320 0	320 0	320 0	10 0	9 0	10 0	3 10 0	3 12 0	3 10 0	Purnea (Kasba).	36	
30 0	30 0	25 0	11 8	12 0	11 0	160 0	160 0	160 0	10 8	10 0	10 0	...	...	...	Malda (English Bazar).	37
31 0	31 0	23 0	17 0	16 8	16 0	120 0	120 0	120 0	10 8	10 8	10 8	3 10 0	3 10 0	3 12 0	Sonthal Parganas.	38			
ORISSA.																			
...	...	...	17 1	17 1	17 1	80 0	80 0	80 0	10 12	10 12	10 12	3 7 0	3 7 0	3 8 0	Cuttack.	39	
...	...	...	10 0	10 0	10 8	120 0	120 0	128 0	10 8	10 8	11 0	3 8 0	3 8 0	3 6 0	Balasore.	40	
...	...	...	14 7	14 7	14 7	80 0	80 0	80 0	11 0	10 8	11 8	3 2 0	3 4 0	3 6 0	Puri.	41	
CHOTA NAGPUR.																			
20 0	20 0	18 0	15 0	18 0	14 0	240 0	240 0	240 0	8 0	8 0	8 0	4 8 0	4 7 6	4 7 6	Hazaribagh.	42			
18 0	...	19 0	10 0	11 0	9 8	160 0	160 0	180 0	10 0	10 0	9 0	4 0 0	3 14 0	4 7 0	Lohardaga (Ranchi).	43			
19 2	18 9	18 9	16 14	16 14	...	...	...	...	9 0	9 0	9 0	...	...	...	Palamau (Daltonganj).	44
20 0	20 0	...	16 0	16 0	18 0	...	...	...	10 8	10 10	10 0	3 8 0	3 9 6	3 12 0	Manbhum.	45
...	...	...	14 0	14 0	12 0	100 0	100 0	100 0	8 0	8 0	8 0	4 6 0	4 6 0	4 6 0	Singbhum.	46	

c In the Begusarai and Jamui subdivisions the retail price of salt is 11 seers per rupee.

d In the Banka, Madhipura and Supaul subdivisions the retail price of salt is 10 seers per rupee.

e In the subdivisions the retail prices of salt per rupee are:—Kishanganj 9 seers and Araria 10 seers.

f In the subdivisions the retail prices of salt per rupee are:—Deoghur 10½ seers, Godda 9 seers, Jamtara not reported, Pakour 11 seers, and Rajmahal 9 seers.

g In the subdivisions the retail prices of salt per rupee are:—Jajpur 9 seers, Kendrapara 10 seers and Banki 11 seers.

h At Bhadrak the retail price of salt is 9 seers per rupee.

i At Girdi the retail price of salt is 11 seers per rupee.

Published for general information.

C. E. BUCKLAND,
Secretary to the Govt. of Bengal.

PRICES-CURRENT (wholesale) of Food-grains, Firewood, and Salt

Number.	MARTS.	WHEAT.			BARLEY.			RICE, BEST SORT.			RICE COMMON.		
		Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
		R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.
1	Calcutta ...	3 5 0	3 6 0	3 1 0	2 7 0	2 8 0	2 3 0	5 2 0	5 2 0	5 0 0	3 4 0	3 5 0	3 12 0
2	Sirajganj ...	2 2 0	2 4 0	3 2 0	...	...	...	4 2 0	4 1 0	5 0 0	3 0 0	2 14 0	3 0 0
3	Dacca ...	3 0 0	3 0 0	2 14 0	...	...	...	3 5 0	3 7 0	3 10 0	2 9 0	2 11 0	2 8 0
4	Narayanganj ...	...	...	...	...	...	...	3 10 0	3 8 0	3 10 0	2 14 0	2 12 0	2 8 0
5	Chittagong ...	3 14 0	3 12 0	3 10 0	...	...	...	3 10 0	3 0 0	2 12 0	3 4 0	2 8 0	2 4 0
6	Patna ...	Red wheat. 2 10 0	2 10 0	2 7 0	1 9 0	1 9 0	1 15 0	3 4 0	3 4 0	3 14 0	2 0 0	2 1 6	2 3 0
		White wheat. 2 13 0	2 13 0	2 10 0									
7	Cuttack ...	3 6 0	3 6 0	2 12 0	...	...	...	3 0 0	3 0 0	3 10 0	1 11 0	1 11 0	2 2 0
8	Balasore ...	2 8 0	2 8 0	2 8 0	4 0 0	4 0 0	4 12 0	2 8 0	2 8 0	3 10 0	1 14 0	1 14 0	2 2 6
9	Puri ...	3 10 0	3 10 0	3 1 0	...	...	...	2 8 0	2 13 0	3 10 0	1 9 0	1 10 0	2 0 0

Calcutta,
The 24th December 1895.

PRICES PER MAUND					
JOWAR OR CHOLUM. (<i>Sorghum Vulgare</i> .)			BAJRA OR CUMBU (<i>Pennisetum typhoides</i> .)		
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.
2 4 0 2	5 0 2	4 0 2	10 0 2	10 0 2	10 0 0
...
...
...
...
1 9 0	1 6 0	...	...	...	...
...
...
...

OF 40 SEERS

MARUA OR EAGL. (<i>Eleusine Corocana</i> .)			KANGNI OR KAKUN, ITALIAN MILLET. (<i>Setaria italica</i> .)		
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.
...	3 10	03 10 04	0 0
...
...
...
...
...
1 5 01	5 01	4 6	1 9 01	9 01	1 14 6
...
...
...

in the undermentioned Marts of Bengal on the 15th December 1895.

GRAM, CHANA, CHHOLA KADALAY OR SUNAGA. (<i>Cicer Arietinum</i> .)			INDIAN-CORN OR MAIZE. (<i>Zea Mays</i> .)			ARHAR OR THUR, CADJAN PEA. (<i>Cajanus indicus</i> .)			FIREWOOD.			SALT.			MARTS.
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	
R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	
2 10 0	2 11 0	2 9 0	2 6 0	2 6 0	2 0 0	2 12 0	2 12 0	2 8 0	0 7 6	0 7 6	0 6 9	3 9 0	3 8 0	3 5 0	Calcutta.
2 8 0	2 6 0	3 4 0	...	...	...	...	...	...	0 8 0	0 6 0	0 6 6	3 4 0	3 5 0	3 10 0	Sirajganj.
2 10 0	2 12 0	2 12 0	...	...	...	2 0 0	2 0 0	3 6 0	0 4 9	0 4 9	0 5 0	3 10 0	3 10 0	4 0 0	Dacca.
2 12 0	2 14 0	2 14 0	...	...	...	3 0 0	3 4 0	3 4 0	0 6 0	0 6 0	0 6 0	3 8 0	3 8 0	3 6 0	Narayanganj.
3 2 0	3 0 0	3 2 0	...	...	...	...	...	...	0 8 0	0 8 0	0 6 0	3 8 0	3 8 0	3 10 0	Chittagong.
1 14 6	1 14 0	2 1 0	1 6 6	1 8 0	1 10 0	1 14 6	1 15 0	2 5 0	0 5 0	0 5 0	0 5 0	3 6 9	3 6 9	3 8 0	Patna.
Biri or kalai. 2 2 0	2 2 0	2 12 0	...	...	...	2 2 0	2 2 0	2 6 0	0 8 0	0 8 0	0 8 0	3 7 0	3 7 0	3 8 0	Cuttack.
Chhola. 3 0 0	3 0 0	2 14 0	}	}	}	4 0 0	4 0 0	3 6 6	...	...	...	3 8 0	3 8 0	3 6 0	Balasore.
Biri or kalai. 2 8 0	2 8 0	...				2 10 0	2 10 0	2 10 0	0 8 0	0 8 0	0 8 0	3 2 0	3 4 0	3 6 0	Puri.
2 10 0	2 10 0	2 13 0	...	...	...	2 10 0	2 10 0	2 10 0	0 8 0	0 8 0	0 8 0	3 2 0	3 4 0	3 6 0	

C. E. BUCKLAND,
Secretary to the Govt. of Bengal.

**SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS
TAKEN IN BENGAL FOR THE WEEK ENDING 8 A.M., SATURDAY,
THE 21ST OF DECEMBER 1895.**

DURING the previous week weather had been decidedly disturbed in Bengal owing to the formation of a very small cyclonic storm in the Bay and its subsequent advance over South-East Bengal. Weather had, however, rapidly improved, and by the close of the week ordinary north-east monsoon conditions had again become tolerably firmly established over the province. At the beginning of the week under review, therefore, weather was fine, skies were almost cloudless, and no rain was falling, while a steady northerly wind current was flowing over Bengal. The meteorological changes which have taken place from day to day during the week have only been of the usual small oscillatory character which accompany fine weather. Thus on the 15th pressure was falling very slowly, though it was still above the normal, while a brisk fall of temperature had occurred, and the night or minimum temperatures had become decidedly below the normal. On the 16th the barometric changes were small and unimportant, while there had been a further fall in the mean temperature. On the 17th pressure and temperature were, on the other hand, increasing, but weather continued fine and settled in Bengal, though the Simla weather reports indicated the existence of a slight barometric depression crossing Rajputana, and advancing in an easterly direction. On the 18th a considerable increase had taken place in the cloud proportion in parts of Bengal, perhaps owing to the advance of the feeble depression alluded to, but the province continued rainless, though the changes of pressure and temperature were irregular in character. On the 18th again the changes of pressure, temperature and humidity were irregular, but the sky had cleared, steady northerly and north-westerly winds were blowing over the province, and conditions were again fine and settled. On the 19th pressure was falling very slowly over Bengal while a rapid decrease of temperature was occurring, the fall at many stations equalling from 2° to 4° or 5° , and the night temperatures had become generally about 2° to 4° in defect, while the day temperatures were also about a degree in defect. Again on the 20th temperature was usually falling slowly and a distinct fall of pressure had occurred, and the north-east monsoon or cold weather conditions remained rather strongly developed.

Pressure.—The general average pressure for the week has been in slight to moderate excess. The usual variation has equalled from $0.02''$ to $0.04''$, and as a rule the excess has been largest at the western and south-western stations.

Temperature.—The north-east monsoon conditions have been rather strongly pronounced almost throughout the week, and hence the mean temperature of the province has been in defect by 1.3° . The defect has been largest in South-West Bengal where it has slightly exceeded one and-a-half degrees and in Bihar where it has equalled two degrees.

The actual average temperatures registered in the province and their variation from the normal values are, however, best seen in the table below, where the average temperature data for eight selected stations in different districts of the province are given:—

Table showing the excess or defect of the actual mean temperature from the normal for the week ending Saturday, the 21st December 1895.

	Normal mean maximum temperature for the week ending 21st December.	Actual mean maximum temperature for the week ending 21st December 1895.	Variation of actual mean from the normal.	Normal mean minimum temperature for the week ending 21st December.	Actual mean minimum temperature for the week ending 21st December 1895.	Variation of actual mean from the normal.	Normal mean daily temperature for the week ending 21st December.	Actual mean daily temperature for the week ending 21st December 1895.	Variation of actual mean from the normal.
Cuttack	81.9	80.7	-1.2	58.1	56.8	-1.3	70.0	68.8	-1.2
Calcutta	75.6	76.1	+0.5	55.4	52.8	-2.6	65.5	64.4	-1.1
Narayanganj	77.8	76.7	-1.1	56.6	54.4	-2.2	67.2	65.5	-1.7
Burdwan	77.2	76.9	-0.3	55.6	53.1	-2.5	66.4	65.0	-1.4
Patna	73.3	72.9	-0.4	50.6	47.4	-3.2	62.0	60.2	-1.8
Gaya	74.8	75.2	+0.4	51.0	48.2	-2.8	62.9	61.7	-1.2
Hazaribagh	70.9	71.3	+0.4	49.6	48.1	-1.5	60.3	59.9	-0.4
Darjeeling	48.2	46.7	-1.5	36.1	35.5	-0.6	42.2	41.2	-1.0

Rainfall.—Except for a few drops of rain registered at Kendrapara, in the Cuttack district, on the 18th instant, the whole province has been rainless for the week.

The following table gives the summary of the temperature and rainfall data of each of the six meteorological divisions of the province for the week ending Saturday, the 21st of December 1895 :—

METEOROLOGICAL DIVISIONS.	TEMPERATURE.						RAINFALL.									
	Highest observed during week.	Lowest observed during week.	Averages for week.			Average mean of week above or below normal mean of week.	Of week.			Rainy days.			Since 1st of month.		Since 16th October 1895.	
			Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in week.	Normal average number in week.	Variation.	Average.	Normal average.		
South-west Bengal ...	80.3	44.2	76.9	51.6	64.2	-1.7	Nil	0.06	-0.06	0.00	0.10	-0.10	0.01	0.23	1.32	2.12
North Bengal ...	77.6	45.0	70.4	49.3	62.9	-1.1	Nil	0.03	-0.03	0.00	0.08	-0.08	0.03	0.15	0.43	1.54
East Bengal ...	79.7	49.0	76.7	53.2	65.0	-1.2	Nil	0.03	-0.03	0.00	0.09	-0.09	1.33	0.34	1.88	2.96
Bihar ...	76.5	41.8	74.3	46.7	60.5	-2.0	Nil	0.04	-0.04	0.00	0.09	-0.09	0.10	0.12	0.25	1.16
Orissa ...	82.3	47.4	79.3	56.5	67.9	-1.1	Nil	0.12	-0.12	0.00	0.12	-0.12	Nil	0.46	3.35	4.00
Chota Nagpur ...	78.6	44.3	74.0	48.3	61.2	-0.7	Nil	0.15	-0.15	0.00	0.16	-0.16	0.03	0.27	1.85	1.32

* Daltonganj not included.

METEOROLOGICAL OFFICE, BENGAL,
The 24th December 1895.

A. PEDLER,
Meteorological Reporter to the Govt. of Bengal.

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 15th to 21st December 1895.






MONTH.	Date.	Pressure at 10 A.M. corrected and reduced to 32° Fahr.	TEMPERATURE.					HYGROMETRY.					Rainfall, past 24 hours.
			Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.	Humidity at 10 A.M.		
1895.		Inches.	°	°	°	°	°	°	Inches.	°	%		Inches.
December ...	15th ...	30.113	65.5	78.2	25.4	52.8	70.6	59.5	.363	50.1	48		Nil
" ...	16th ...	.119	64.3	77.5	26.5	51.0	70.4	60.2	.383	51.9	52		Nil
" ...	17th ...	.159	67.9	78.8	21.9	56.9	69.6	59.7	.381	51.4	52		Nil
" ...	18th ...	.171	63.2	79.3	22.2	57.1	68.8	58.7	.362	50.0	52		Nil
" ...	19th ...	.176	65.0	76.5	23.1	53.4	67.6	58.7	.377	51.1	56		Nil
" ...	20th ...	.154	63.6	76.3	25.4	50.9	67.2	58.7	.383	51.6	58		Nil
" ...	21st ...	.114	63.0	76.5	27.1	49.4	67.1	56.7	.336	48.1	52		Nil

The mean 10 A.M. pressure of the seven days ...	...	...	Inches.
The mean temperature of the seven days ...	...	...	64.4
The extreme variation of temperature ...	...	...	29.9
The maximum temperature ...	...	...	79.3
The mean 10 A.M. relative humidity of the seven days ...	...	...	%
The total fall of rain from 15th to 21st December 1895 ...	...	...	53
The daily mean temperatures are the crude means of maximum and minimum temperatures.	...	...	Inch.
			Nil

METEOROLOGICAL OFFICE, INDIA,
The 23rd December 1895.

C. LITTLE,
For Meteorological Reporter to the Govt. of India.

Results of the Meteorological Observations taken at the Alipore Observatory from
15th to 21st December 1895.

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
1895.				Inches.	°	°	°	°	°	Inches	°	%			Inches.	
Dec.	15th	129.7	9.4	30.035	63.2	75.9	23.5	52.4	56.1	0.353	49.7	64	NNE and calm ...	23	Nil	Clear,  .
"	16th	129.2	9.2	.054	62.8	76.3	25.6	50.7	56.4	.375	51.0	68	NNE and calm ...	23	"	Clear,  .
"	17th	128.6	7.7	.087	65.2	77.1	20.6	56.5	57.9	.383	51.8	64	NE, NNE and calm.	32	"	Morning partially cloudy, day and night clear.
"	18th	130.2	6.9	.086	66.1	77.8	21.3	56.5	57.7	.370	50.6	60	NNE and calm ...	42	"	Morning partially cloudy, day and night clear, c.
"	19th	127.7	9.2	.087	63.4	74.2	19.3	54.4	55.9	.343	48.9	63	NNW, WNW and calm.	37	"	Clear,  .
"	20th	127.7	9.3	.079	62.8	74.4	23.9	50.5	55.6	.351	49.2	64	NNW and calm ...	39	"	Chiefly clear,  .
"	21st	129.5	9.4	.049	61.5	75.3	25.7	49.6	54.0	.319	46.6	58	NNW and calm ...	37	"	Chiefly clear,  .

The mean pressure of the seven days ... 30.068

The average pressure of the corresponding period for 24 years, Surveyor-General's Office ... 30.032

The total number of hours of bright sunshine ... 61.1

The maximum possible number of hours of sunshine ... 75.0

The mean temperature of the seven days ... 63.6

The average temperature of the corresponding period for 24 years, Surveyor-General's Office ... 67.4

The extreme variation of temperature ... 28.2

The maximum temperature ... 77.8

The highest velocity of the wind in one hour ... Miles, 6

The mean relative humidity ... % 63

The average relative humidity of the corresponding period for 24 years, Surveyor-General's Office ... 71

The total fall of rain from 15th to 21st December 1895 ... Inches, Nil

The average fall of the corresponding period for 24 years, Surveyor-General's Office ... 0.01

The total fall from 1st January to 21st December 1895 ... 39.38

The average fall of the corresponding period for 24 years, Surveyor-General's Office ... 65.23

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph, and from observations made at 6h., 10h., 16h. and 22h.


The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard Newman's No. 86, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

, dew; o, overcast.